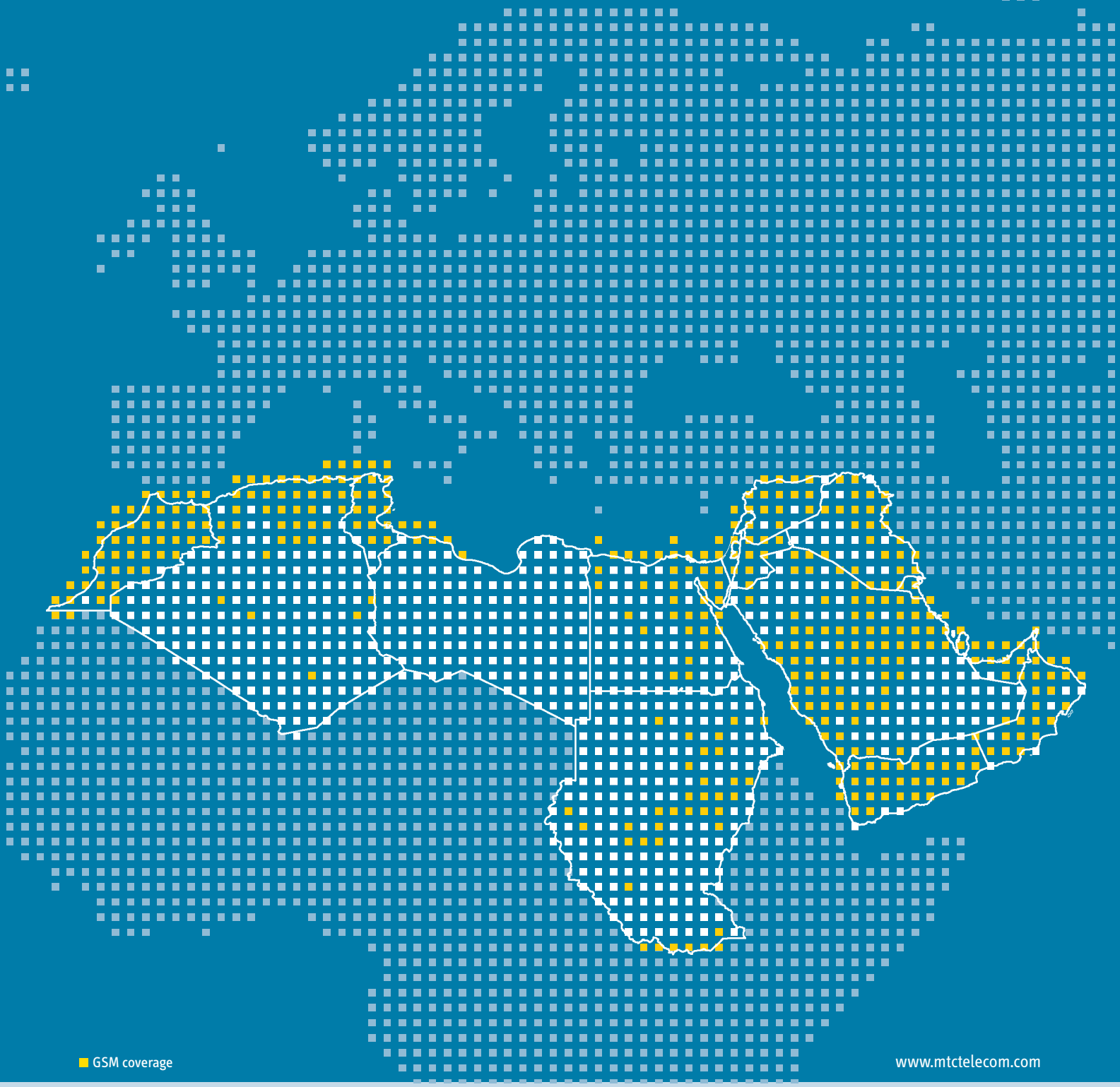
MENA Region:
Mobility for One Language, Diverse Cultures



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An MTC Report | February 2006

The socio-economic impact of mobile phones in the Arab World

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Mobile Telecommunications Co

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This report was produced by ABQZawya (www.zawya.com)
on behalf of MTC

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Contents

IV. Impact of Mobile Phone Networks in Iraq

V. MENA Survey by ACNielsen

Dr. Saad Al Barrak ceo@mtctelecom.com

Chief Executive Officer
MTC Group

It's all about delighting the customer...

We at MTC have been a very successful company over the past 23 years. We have expanded into 19 countries with over 14 million customers and we have grown into a US$13 billion company.

All the way along the line we had one aim in mind: to provide an efficient service tailored to the needs of the many communities we serve.

At the same time we have also learned a lot about the direct – and indirect – benefits that modern, affordable communications can bring to a society. It is not only the technology that is revolutionary but also the many, varying effects that mobile telephones can have on people's lives.

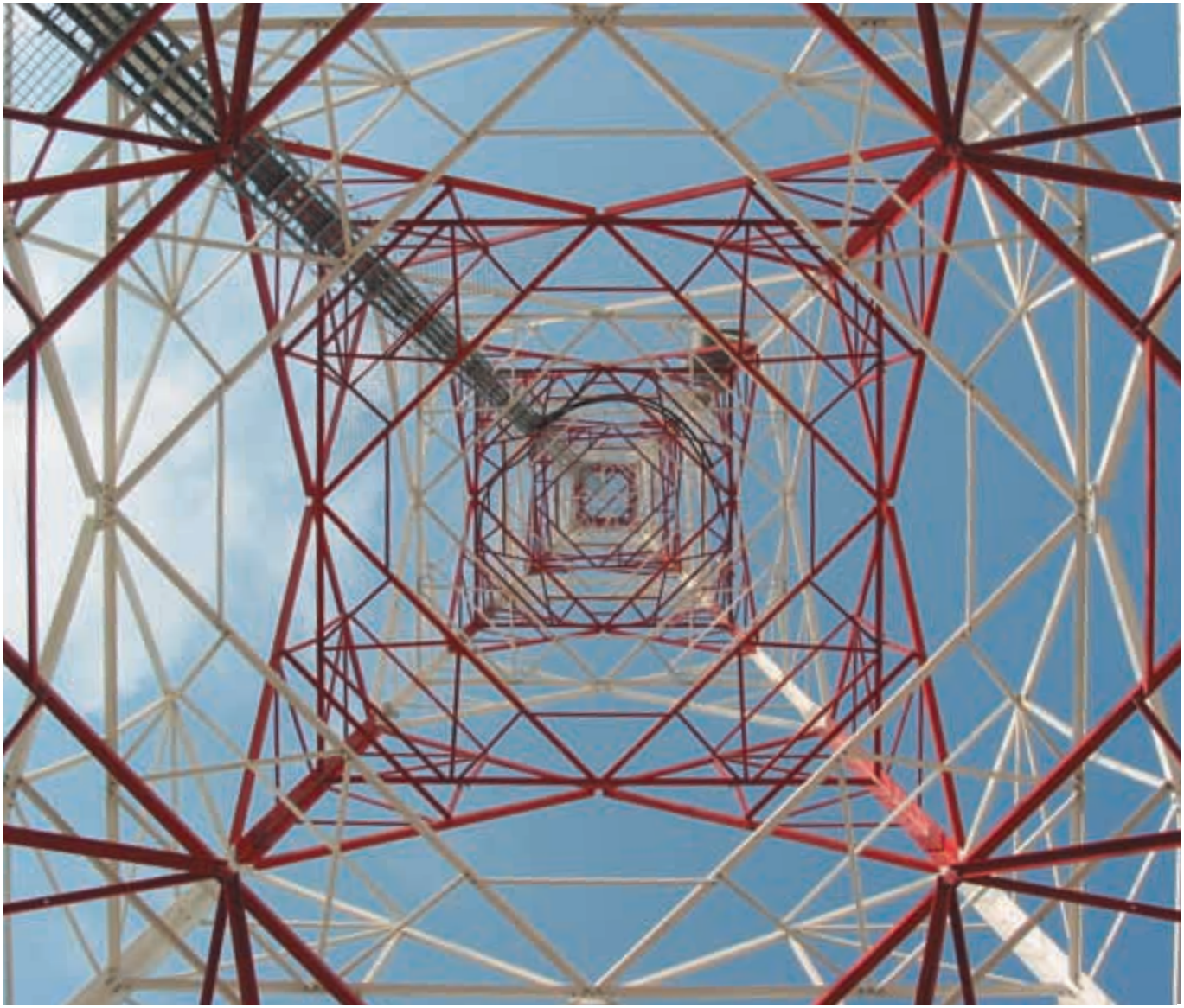
MTC is a commercial company, intent on providing a service and with ambitions to become a world player in the communications market. But we are also a responsible concern and we care about maximizing the benefits of our services to all the societies in which we operate, as well as guarding against the potential for any abuse.

That's why we commissioned this in-depth report. The logistics that were put in place by Zawya to make this report possible was a success by itself. Ten different contributors from five different Arab countries all gave their important insight on the socio-economic impact of mobile phones. Two different companies conducted nine surveys covering seven Arab countries – including some where we do not currently operate in. And while people and data were moving between a dozen different cities in the Arab world, the entire report was orchestrated in Beirut.

The results and findings of this report have expanded our knowledge of the impact of mobile telephony, and in some aspects taught us the special characteristics of the sector of which even we were unaware.

MTC is making these results public because we believe that even our competitors should share the knowledge gained from these comprehensive findings. They show that the potential in our industry for bettering people's lives, even in the poorer countries of the world, creating employment, fostering understanding, and creating awareness of different cultures is even greater than we all thought.

I hope that whatever profession or industry you represent, you will find this report interesting, useful and a tool to continue the process of using technology to improve appreciation of the world and the peoples around us.



Introduction

We at Zawya have been attempting to break new grounds in all our undertakings, and this is what we aimed in achieving through this in-depth report.

The social and economic ascendance of the mobile phone defies being explained solely with economic and social factors such as near-perfect marketing strategies and human eagerness for new gadgets. More than just a winning team, the alliance between mobility and communication has become a new embodiment of freedom – demonstrating that the combination of these two fundamentals of human independence is a far more potent formula than the simple sum of the two parts.

In one sentence, the mobile phone emerged as a primary institution of applied democracy in the space where freedom turns tangible. People picked the mobile because they saw it as tool for having control in essential aspects of their own lives. The technical cornerstone of this development was the rollout of the GSM standard from 1992. It opened the door to the mobile phone's revolutionary leap from a pricey business tool and clumsy accessory to a companion of daily life.

In economic terms, the importance of the mobile communications value chain is well established and documented in scientific surveys, projections and tables. Looking at the economic importance and benefits of GSM networks and usage in Middle Eastern countries, we realized that much room exists for further reliable studies and scientific evaluation – which is unsurprising since regional markets are under-studied in not only this but many aspects of macroeconomic and sector-specific research.

It must be noted that the economic impact of mobile communication in the MENA region is much broader than in developed countries as means to improve general business activities across many sectors in the economy. This is mainly due to the fact that nearly all countries in the region have never experienced such a widespread communication facilitator due to the low fixed line and internet penetration rates. But how did the mobile phone really affect the MENA's many economies?

Additionally, this report aimed at not only studying the economic impact of mobile phones in the region, but also the social one as we knew that mobile phones have become an integral part of Arab society. Be it in cosmopolitan Beirut, bustling Dubai, nostalgic Casablanca or historic Baghdad, mobile phones have helped in changing the way Arabs go on living. This was known, but how have they changed all these people's lives?

These are questions which we, as well all the contributors of this report, thought needed to be answered in detail. Every single one of them put incredible effort in delivering what we hope will start a new wave of research in the region and all thanks goes to them. Finally, we would like to acknowledge MTC's vision by commissioning us to make this report possible.

Zawya

I:

Overview of the Region's Mobile Telecom Sector

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Co-author: Hilal Halaoui, Senior Associate

Arab Mobile Markets

The Arab world has witnessed a wave of telecom market liberalization coinciding with WTO accession in the past few years. New entrants have been mainly operating in the mobile space, which has witnessed intensifying competition. Incumbent operators have adopted home market defense strategies, and as new entrants gained grounds and markets approached saturation, operators expanded into new markets in search for growth.

Changes in technology will further influence the mobile communications value chain, creating a new trend of multimedia convergence, which is set to be the next battleground for operators and media players alike. Mobile broadband and broadcasting will allow more dynamic and rich content to be broadcast to a wider viewership. With the advent of mobile broadband, operators will be challenged to balance the attractiveness of full mobility and practicality of handheld devices on one hand, and high speed connectivity on the other.

This paper examines the current mobile communications landscape in the MENA region and outlines the potential future opportunities and challenges expected to face the rapidly growing sector. It provides analysis and insights into the causes and effects of the main trends and draws conclusions on potential prospects along the following structure:

1. Market liberalization impact
2. Regional and global expansions
3. Home market protection
4. Emerging business models
5. The advent of mobile broadband
6. Future outlook

Market Liberalization Impact

The number of Arab countries gaining World Trade Organization membership is on the increase, exceeding 12 countries in 2005, with the latest member being the Kingdom of Saudi Arabia. Telecom liberalization commitment is a requirement for WTO accession. Arab countries have been increasingly committing to the opening of telecommunications services markets, which has impacted the sector significantly.

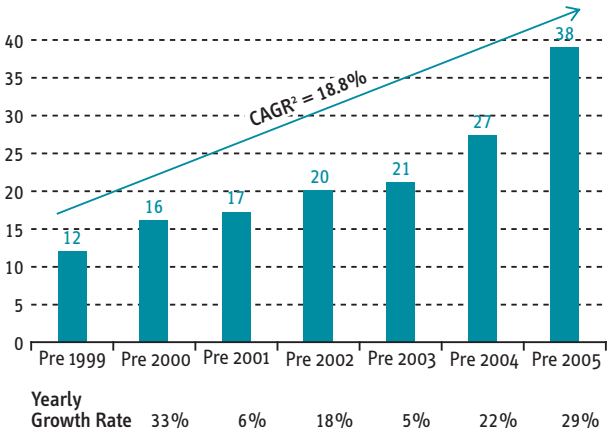
Telecom market liberalization is commonly developed in two stages:

1. The first is to articulate a telecommunications law and to create an independent regulatory authority. This is typically coupled with the corporatization (dissociation of the incumbent operator from Ministry of Telecommunications and setting it up as a commercial operation) and partial privatization of the incumbent telecom service provider.
2. The second stage is when the regulatory authority implements the telecommunications law, by deregulating and liberalizing the telecommunications market. This is achieved through the issuance of telecommunications licenses and the monitoring of further privatization activities by the incumbent.

The region has undergone a wave of market liberalization over the past 6 years, resulting in the privatization of many incumbent telecommunications operators, and the emergence of new operators through the issuance of new licenses. There have been various degrees of liberalization with Jordan and Bahrain being the most liberalized and UAE and Qatar being the latest to show signs of liberalization activities.

The mobile sector was the first to benefit from this wave, where we have seen a multitude of new operators emerging within national borders, and expanding across the region and beyond. The number of mobile operators in the region stands at 38 by the end of 2005, as opposed to half as many fixed operators – which are still predominantly incumbent monopolies. We expect additional mobile operators to emerge in the next three years in countries like Kuwait, Qatar, UAE, Egypt, Saudi Arabia, Morocco, Tunisia, Syria and potentially Lebanon upon the conclusion of the four year management contracts with the two existing operators.

Exhibit 1: Evolution of Number of Mobile Operators in the Arab World[1]



Source: Zawya; Booz Allen Hamilton analysis

As licenses are issued, direct foreign investment is attracted, with a significant source of funding coming from the region itself. Licenses are being largely awarded to operators from the region, supported by global operators in some instances. Examples of regional investments include UAE-based Etisalat owning 35% of the second operator in Saudi Arabia (Etihad Etisalat), together with a number of other major investors; MTC owning large stakes in mobile operators in Jordan, Bahrain and Iraq among others; and Wataniya owning a 40% stake in AsiaCell in Iraq. Foreign investment has also been attracted from outside the region, examples of which can be seen in France Telecom owning 35.2% of MobileCom in Jordan.

Exhibit 2: Number of Fixed Line and Mobile Network Operators in Regional Countries (2005)

	Number of Fixed Network Operators[1]	Number of Mobile Network Operators
Algeria	2	3
Bahrain	1	2
Egypt	1	2
Iraq	1	3
Jordan	1	4
Kuwait	1	2
KSA	1	2
Lebanon	1	2
Libya	1	2
Morocco	1	2
Oman	1	2
Palestine	1	1
Qatar	1	1
Sudan	1	2
Syria	1	2
Tunisia	1	2
UAE	1	1
Yemen	1	3

Source: Booz Allen Hamilton Analysis

Regional and Global Expansions

Regional operators have been expanding beyond their national borders, mainly by acquiring much sought-after mobile licenses. Other types of acquisitions include fixed operations or stakes in existing operators. Expansions have been driven by two main factors: pull from new opportunities and push from increasing competition or saturation in the home market.

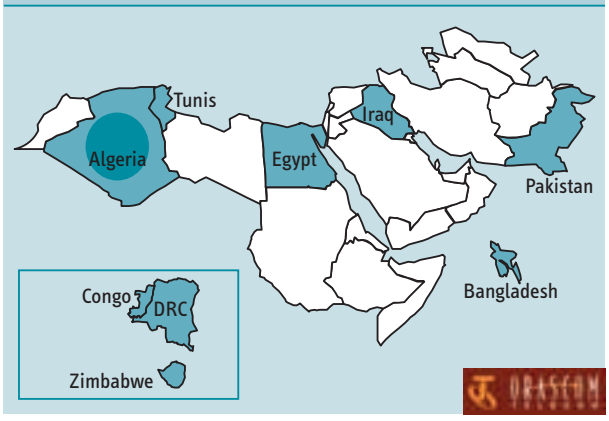
Kuwait and UAE – home to MTC, Wataniya on one hand and Etisalat on the other – had a mobile penetration of 80% and over 100% in 2005 respectively. MTC and Wataniya have expanded into 4 countries each, and Orascom had acquired operations and licenses in over 10 countries by April 2005. Most of the expansion territories of Etisalat and MTC have been through major acquisitions that took place in March and April 2005. Etisalat added 7 countries in Central Africa, by acquiring a 50% stake of Atlantique Telecom, a West African mobile operator. MTC added over 13 operations in the African region through the acquisition of Celtel in May 2005.

In the case of Orascom Telecom, the Egyptian market was becoming highly competitive with a low Average Revenue Per User (ARPU). Although market saturation wasn't reached, Orascom Telecom went into an aggressive expansion plan at the turn of the century. By 2002, their share price was negatively impacted. Orascom Telecom divested the majority of non-strategic assets (mostly sub-Saharan mobile licenses), restructured its balance sheet, and developed a highly focused and disciplined regional growth strategy. Orascom Telecom's share price recovered steadily, with its GDR recovering from a 91% drop in value over September 2000-2002, to register a 3,500% increase in value by 2005 from its low point in 2002.

Orascom's operations have expanded into Africa, Bangladesh and Pakistan. However, it is early to judge whether these expansions will be successful or not as there are various factors that could influence the suitability of a country and sector for investment. Such factors include geographical proximity, growth potential of the target market, the cultural fit, trade and relationship between the source and target markets, sector attractiveness, and overall company strategy, among others.

Exhibit 3: Regional Operators Presence – October 2005[1]

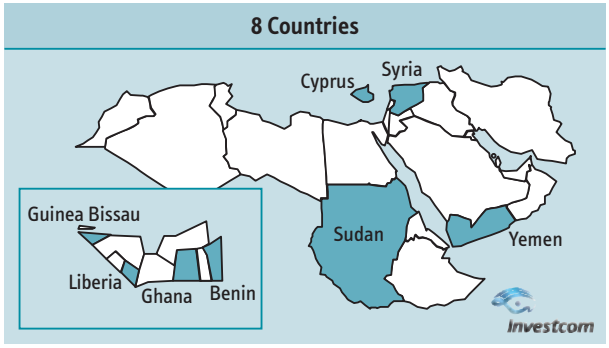
10 Countries



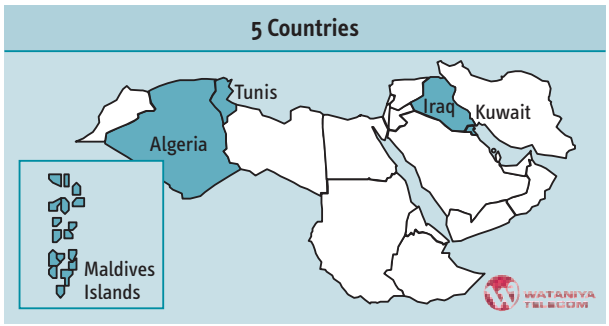
Country	Operator Subs. Base	Market Share
Pakistan	9,000,000	58%
Bangladesh	600,000	7%
Algeria	6,158,624	53%
Zimbabwe	220,000	31%
Congo	150,000	43%
Egypt	6,000,000	50%
Iraq	1,418,762	41%
Tunisia	1,986,918	35%
Total	**25,534,324**	

18 Countries

Country	Operator Subs. Base	Market Share
Lebanon	501,000	51%
Jordan	1,732,000	71%
Bahrain	190,000	25%
Kuwait	1,394,000	60%
Iraq	925,000	26%
Africa[2]	7,708,000	
Total	**12,450,000**	



Country	Operator Subs. Base	Market Share
Syria	925,000	43%
Yemen	710,000	42%
Cyprus	19,200	5%
Africa[3]	2,238,000	
Total	**3,892,200**	



Country	Operator Subs. Base	Market Share
Kuwait	928,444	40%
Algeria	1,164,455	10%
Iraq	1,113,600	32%
Tunisia	1,986,918	35%
Maldives	10,198	
Total	**5,203,615**	

Country	Operator Subs. Base	Market Share
UAE	4,300,000	100%
KSA	1,800,000	15%
Africa[4]	1,400,000	
Total	**7,500,000**	

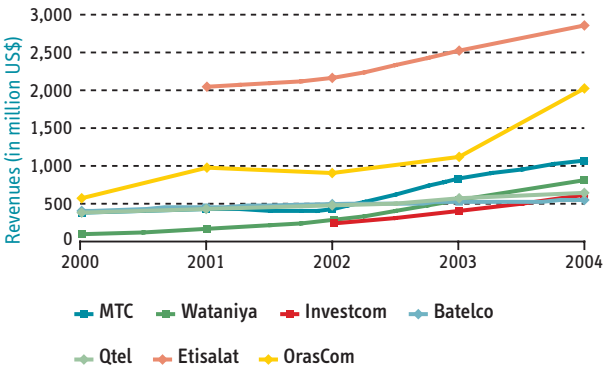
Country	Operator Subs. Base	Market Share
Qatar	680,000	100%
Oman	181,422	15%
Total	**861,422**	

Mobile Fixed voice/data

Source: Literature Search; Operator websites; Zawya; Booz Allen Hamilton Analysis

A main lesson learnt from European operators, and more recently some regional operators, key to the success of acquisitions, is a well planned investment strategy that takes into account all the potential success factors. In addition, the presence of an investment strategy enables an operator to proactively act upon forthcoming opportunities in the market, with the full alignment of the Executive Management and Board of Directors. A well designed strategy also prevents the pursuit of every opportunity that arises, which could prove to be a strain on human and financial resources, with highly uncertain results. By 2004, almost all regional operators that have pursued investment opportunities, have witnessed growth in their revenues as illustrated in exhibit 4 below.

Exhibit 4: Selected Regional Operators Revenue Evolution (2000-2004)



Note: 2005 revenues were not yet available

Source: Zawya

In some cases, operators might get consumed by the desire to win a license that they might bid at higher prices than necessary. Overbidding could have severe consequences on the financial performance of operators and their financial markets value. Higher bidding could be a direct consequence of the lack of clear investment guidelines or a simple disregard to such guidelines in favor of achieving an aggressive expansion strategy at any cost.

Home Market Protection

Although a lot of attention has been on expanding beyond the national boundaries, investment in local markets is still an important element of an operator's strategy, especially with the high growth potential within the home market. As competition increases, new operators are focusing on growing their subscriber base while incumbents are focused on defending their market position and minimizing losses of their traditionally high revenues.

Most regional markets now have two or more mobile operators, adopting various competitive strategies. Operators are predominantly adopting price competition, although many emphasize service differentiation. The mobile market in the region is dominated by prepaid services. These users are price sensitive, hence the strong drive to compete on pricing. However, once price is exhausted as a competitive tool, operators will increasingly turn to services and promotions as a key lever for differentiation.

Exhibit 5: Mobile Incumbent Strategies

Country	Incumbent	Competitor	Competitor Entry Date	Price War	Co-Opetition	Differentiation
Egypt	Mobinil	Vodafone Egypt			*	
Bahrain	Batelco	MTC Vodafone	May 2003	*		
Kuwait	MTC	Wataniya	Dec. 1999	*		
Jordan	FastLink	MobileCom	Sep 2000	*		
Morocco	IAM	Meditel	Mar. 2000	*		
Algeria	Algérie Télécom Mobile	Orascom	Feb. 2002			*
Lebanon	Alfa	MTC Touch (also incumbent)	Aug. 1995		*	
Oman	Oman Mobile	Nawras	Mar. 2005	*		

Source: Arab Advisors Group

In a drive to defend the home market, incumbent operators are focusing on enhancing their network infrastructure and developing new services. Loyalty programs, for instance, have become popular with operators. As an example, Qitaf, offered by Saudi Telecom for its mobile and fixed services customers, has proven to be popular with subscribers. This loyalty program simply gives points to users which then allows them to exchange them for free talk time or SMS units. Al Tamayoz was recently launched by Aljawal (the mobile division of Saudi Telecom) in Saudi Arabia to reward frequent users of their services with attractive privileges. Similar programs for collecting and redeeming loyalty points are available in Jordan, Morocco and Bahrain.

The Emerging Business Models

Technology is allowing operators to introduce services that could play a major part in differentiation. Although basic voice communication will remain the dominant revenue generating vehicle for operators in the medium term, data and value added services play a role in differentiating operators and increasing the loyalty of subscribers.

As mobile devices become more sophisticated, the user experience is changing. Operators are evolving their services by offering to deliver entertainment and information to mobile phone screens. Short Messaging Services (SMS) have been the dominant means of delivering content and interactivity services. In the last four years, SMS traffic has increased significantly on mobile networks in the region. As more bandwidth becomes available on networks following the introduction of GPRS, more complex messaging can be supported, hence the introduction of Multimedia Messaging (MMS). Today, most networks in the region have introduced GPRS standards and a large number of successful operators offer MMS services.

Currently, telecom operators share revenues from these services with content developers and content aggregators. The main players in this field are television broadcasters, music rights owners and companies who aggregate content from various developers, including news, sports, directories etc. Telecom operators are increasingly paying attention to this revenue share model. Although these revenues may be insignificant for some operators at the present time, the are creating significant opportunities for media companies. Many thematic TV Broadcasters have emerged recently to offer music content with continuous SMS-based message boards and downloads along with MMS.

Revenue sharing schemes are dependant on the bargaining power of each player in this value chain. Traditionally, dominant content providers have held a strong position, commanding significant share in return for their copyrights. Telecom operators are now realizing the importance of their role as the ultimate owner of the relationship with the end user. Telecom operators bill and collect revenues for these services on behalf of content providers and aggregators. They also play a major part in communicating the use of these services.

As messaging and interactivity services become more widely spread, revenues from such sources to mobile operators will become more significant. Operators are reviewing their business model to reflect changes in the nature of mobile services. The main question being addressed by many operators at this stage is how far down the value change they want to operate? Many are increasingly playing the role of aggregating content directly from content developers. Others are investigating the possibility of entering the content development industry and producing their own content libraries in order to reduce the costs of production.

Exhibit 6: Selected Regional Mobile Operators Mobile Data Services Offerings

		Messaging													News											Entertainment														Information							Listings		
		SMS							Chat			MMS																																					
Country	Operator	SMS 2 Mobile	SMS 2 Email	SMS 2 Fax	SMS 2 TV	Bulk SMS	SMS Roaming	SMS Storage	SMS Chat	Instant Messaging	Multimedia Messaging	MMS Composer	Video MMS	Blogs	Business News	Breaking News	Local News	World News	Weather Updates	Sports	Entertainment	Islamic	Stock Quotes	Currency Rates	Currency Conv.	Monophonic RT	Polyphonic RT	Ring backs	Real Tones	Logos & Wallpapers	Screensavers	Quizzes	Mono-player	Multiplayer	Jokes	Dedications	Horoscopes	Hotels	Restaurants	Events	Flights	Travel Guide	City Guide	TV Grids	Yellow Pages	White Pages	Classified
KSA	Aljawal	*			*	*	*		*		*		*		*	*	*	*	*	*	*	*	*	*		*	*	*	*	*	*	*	*	*	*	*		*	*	*	*			*			
KSA	Mobily	*			*		*				*		*		*	**	**	**	*	*	**	*	*	*		*	*		*	**	*	*	*	**	*												
UAE	Etisalat	*	*	*	*	*	*				*		*			*																													*	*	
Kuwait	Wataniya	*	*		*		*		*	*	*		*		*	*	*	*	*	*	*	*	*	*		*	*	*	*	*	*		*	*	*	*	*				*	*	*		*	
Kuwait	MTC	*	*		*	*	*		*	*	*		*		*	*	*	*	*	*	*	*	*			*	*	*	*	*	*	*	*	*	*	*	*										
Bahrain	Batelco	*	*	*	*	*	*			*	*		*		*	*	*	*	*	*		*	*	*		*	*		*	*	*	*	*	*	*	*	*	*	*	*	*		*	*	*	*	*
Bahrain	MTC-Vodafone	*	*				*				*		*		*		*	*	*	*	*	*				*				*																	
Qatar	Q-Tel	*	*	*		*	*		*		*		*		*	*	*	*	*	*	*	*	*	*		*	*		*	*	*	*	*	*	*	*	*							*			
Egypt	Vodafone	*	*		*	*	*				*	*	*	*		*				*			*	*		*	*	*		*		*	*			*	*	*			*		*	*	
Egypt	Mobinil	*	*		*		*		*		*		*		*		*	*	*	*		*	*	*		*	*		*	*	*	*	*				*	*		*	*					
Jordan	FastLink	*	*		*	*	*		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		*	*		*	*	*	*	*	*	*	*			*	*						
Jordan	MobilCom	*	*		*	*	*		*		*		*		*	*	*	*	*	*	*	*	*	*		*				*	*						*	*								

*SMS Based **SMS and MMS Based

Source: Operators' websites and Booz Allen Hamilton Research, October 2005

Moreover, interactive television programming is proving to be very successful, with many formats being introduced to the region such as Star Academy and Superstar, as well as many other niche stations offering continuous entertainment. Such programs are creating significant revenue opportunities for TV broadcasters, beyond traditional advertising revenues. This is made possible by telecom operators, who may at some point in the near future be interested in expanding their operation into the media part of the value chain.

The Advent of Mobile Broadband

Current GSM services are expected to continue to dominate the revenue forecasts for telecom operators in the region for several years to come. Further investment in the current GSM technology is set to continue over the next 5-8 years by way of new deployment and network upgrades. During this period, gradual deployment of wireless broadband technologies is expected to take place. Approximately five countries in the region have deployed 3G and EDGE technologies, and the number is increasing. Although deployment has been limited to specific areas, coverage is set to increase as new entrants start deploying these technologies. WiMax is entering the region through specific initiatives and trials. The future is not a question of which technology will dominate the market place, it could very well be a mixture of all these technologies. A lot depends on the availability of practical user devices. Full mobility will always remain a key differentiator. Wireless technologies that do not cater for the practicality of small and easy-to-carry devices will face difficulties breaking into the mass market.

Exhibit 7: Mobile Technologies in Arab Countries and Total Mobile Revenues

	2G	3G	EDGE	GPRS
Algeria	*		*	*
Bahrain	*	*	*	*
Egypt	*		*	*
Iraq	*			*
Jordan	*			*
Kuwait	*		*	*
KSA	*			*
Lebanon	*			*
Morocco	*			*
Oman	*			*
Palestine	*			*
Qatar	*			*
Sudan	*			*
Syria	*			
Tunisia	*			*
UAE	*	*		*
Yemen	*			*

Source: Arab Advisors Group, Operator Press Releases, Booz Allen Hamilton Research

Mobile broadband should serve a different purpose from wireless broadband. While the first provides freedom of movement and practical access to entertainment, information and other individuals, the other offers "portability" and high speed connectivity for applications requiring slightly larger devices such as notebook computers.

Technology deployment models are expected to include a mixture of wireless technologies, serving different market segments. This has been evident from global operators such as Vodafone and T-Mobile who have introduced WiFi services in conjunction with their GPRS offering.

The Future Outlook

The market is set to see further liberalization and privatization in the coming few years. As new entrants gain market share and challenge the dominance of incumbent operators, markets are set to become more liberalized with open competition. This may lead to potential consolidation at a regional level as some small players start finding difficulties competing with the larger one.

Mobile Virtual Network Operators (MVNOs) may emerge in different shapes and forms, ranging from basic resellers to full MVNOs, falling short of owning network infrastructure. Such service providers will sell excess capacity installed in existing networks as a result of aggressive expansions during the early days of competition. Wireless broadband will be on the increase through third generation mobile services and a myriad of other wireless broadband technologies.

Telecom operators in the region are expected to continue reviewing their operating models and organizational structures, further expanding their operations into the value chain and accommodating charges in consumer behavior and market dynamics. We may increasingly see telecom and media convergence activities which could result in cross industry acquisitions or cooperation agreements.

Incumbent operators will be challenged by the nature of competition, which may come in the form of focused operators (mobile or fixed separately) or integrated operators (fixed and mobile service offering combined). The nature of competition in each market will influence the way organizations are structured and customers are served. However, structures will vary depending on how market segments are defined by operators. Segments could include Home, Enterprise, Personal and Other Carriers, or a combination of some.

Regulatory authorities will play a significant role in influencing market growth. In order to ensure healthy growth and benefit to all stakeholders, regulators should focus on the task of creating value in the market and not transferring it from the incumbent operator to new entrants. Good regulation would result in benefits to the consumer, operators, vendors and governments who will be, as a result, creating job opportunities, encouraging foreign and local investment and democratizing access to communications services.

Notes

Exhibit 1

[1] Countries Include: Bahrain, Iraq, Kuwait, Oman, Qatar, KSA, UAE, Yemen, Jordan, Lebanon, Syria, Algeria, Egypt, Libya, Morocco and Tunisia

[2] Cumulative Average Growth Rate

Exhibit 2

[1] Does not include fixed line operators that do not own access networks

Exhibit 3

[1] Number of subscribers and market share are based on subscriber

estimates by the operator or press release, and ranges between Q2 and Q3 2005

[2] Sudan, Burkina Faso, Chad, Republic of Congo, Democratic Republic of Congo, Gabon, Kenya, Malawi, Niger, Sierra Leone, Sudan, Tanzania, Uganda, and Zambia

[3] Sudan, Benin, Ghana, Liberia, Guinea

[4] Burkina Faso, Togo, Benin, Ivory Coast, Gabon, Tanzania, Nigeria, Sudan, Pakistan

II:
Economic Impact of Mobile Phone Networks

Sherine Al Shallah and Maroulla Haddad

Connexus Consulting

Connexus Consulting is the region's leading consultancy in telecom regulation. The company has advised the telecom regulatory authorities, telecom service providers and international organizations in around 10 countries in the region.

The Impact of Competition in Arab Mobile Markets

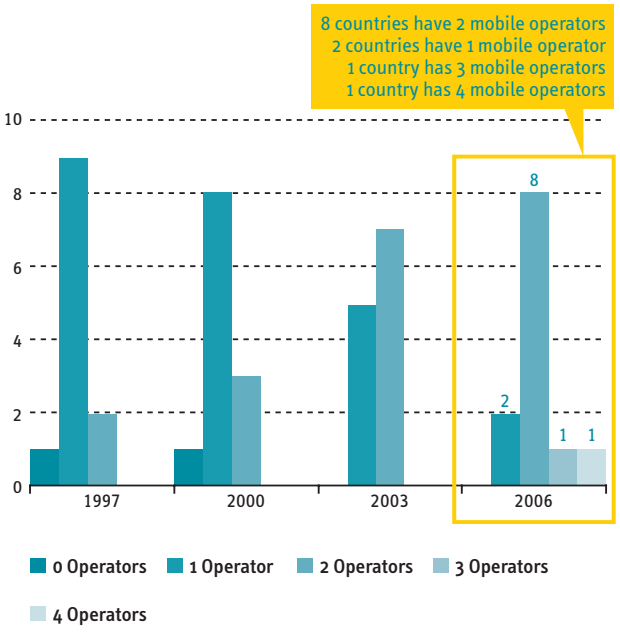
Introduction

Mobile telecommunications markets in Arab countries are on the move. In the last five years, mobile telecommunications in Arab countries have witnessed a major transformation. The most visible aspect of this transformation has been the rapid growth in mobile penetration and usage. Penetration of mobile telecom has increased from 1% (of total population) in 1997 in the Middle East and North Africa (MENA) to 25% in 2005. During that time, prices of mobile telecom services have dropped significantly across the board, with a few exceptions (e.g., Lebanon). During that same period, the mobile telecom market has been opened to greater competition.

This research investigates the economic impact of opening the mobile telecommunications market to competition in the MENA countries. More specifically, it looks into how competition has impacted sector performance, and thus an Arab country's economy. Data and cross country evidence has been collected from a total of twelve countries in the MENA region, namely: Algeria, Bahrain, Egypt, Morocco, Lebanon, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, Syria and United Arab Emirates (UAE).

The Jordanian mobile market is by far the most competitive among all MENA mobile markets. Jordan effectively has four licensed mobile operators (three GSM and one IDEN), offering a total of 22 postpaid and prepaid plans. However, the number of players is not the only factor affecting the level of competition. Competition is enabled (or handicapped) by the governing legal and institutional framework. This section examines in detail the Saudi and Bahraini mobile markets, which have both been recently liberalized with two operators each, in addition to the Jordanian and Moroccan markets.

Number of Mobile Operators in MENA Countries



Source: Connexus Analysis

Competition Evolution in MENA Mobile Markets

The number of countries with mobile market monopolies decreased in the past 9 years: from nine in 1997 to only two in 2006 - in Qatar and the UAE (see chart on opposite page). However, the UAE has recently licensed another integrated telecommunications operator in 2005, which is expected to start operations in mid-2006.

Of the 12 surveyed countries, all but three have a separate telecommunications regulator. The Lebanese telecommunications regulatory authority is expected to be established in the first half of 2006, thus leaving only Syria and Kuwait in the region without a separate telecommunications regulator.

Existence of a Separate Telecommunications Regulator in MENA Countries

Country	Separate Regulator (Y/N)
Algeria	Y
Egypt	Y
Morocco	Y
Tunisia	Y
Bahrain	Y
Kuwait	N
Oman	Y
Qatar	Y
Saudi Arabia	Y
United Arab Emirates	Y
Jordan	Y
Lebanon	N
Syria	N

The introduction of a telecommunications regulator has usually followed the introduction of a modern telecommunications law, both in preparation for market liberalization. The table below exhibits the date of introduction of modern legislation, establishment of a regulator and liberalization for a selection of the studied sample.

Highlights of Telecommunications Regulation and Liberalization in Selected MENA Countries

Country	Modern Telecom Law	Separate Telecom Regulator	Start of Liberalization	Date of Full Liberalization
Algeria	2000	2001	2000	2005
Egypt	1998	1999	1998	2006
Morocco	1996-2004	1998	1999	2005
Bahrain	2002	2002	2002	2004
Saudi Arabia	2001	2001	2003	2006
Jordan	1995-2002	1996	1996	2005

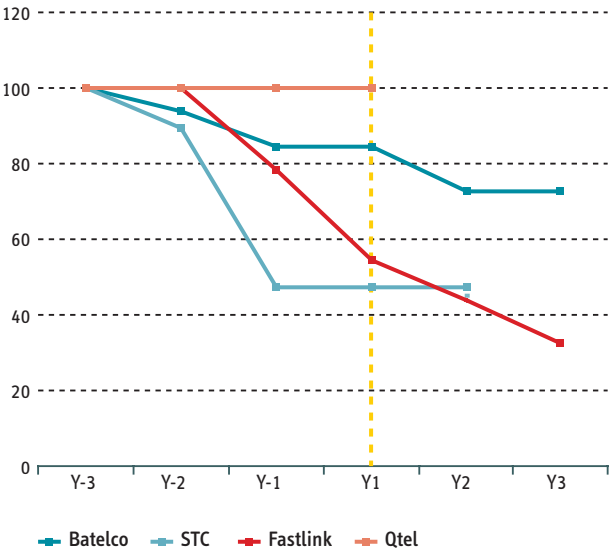
There have been three waves of telecommunications liberalization in the region. The first wave started in the mid-1990s in Morocco and Jordan. It was not until the year 2000 that the second wave of liberalization started, covering Algeria, Saudi Arabia, and Bahrain, but also giving an impetus to a further strengthening of the regulatory framework in Jordan (significant amendments to the telecommunications law were introduced). We are now in the midst of the third wave of liberalization, with most countries moving ahead either with full liberalization of fixed and mobile (Bahrain in 2004, Jordan in 2005, Morocco in 2005, Saudi Arabia in 2006, but also Egypt, Algeria, and other countries).

Impact of Competition on MENA Mobile Markets

Price Reduction and Service Improvement

International experience illustrates that competition, or a credible threat of competition, leads to lower prices. This, in fact, has also been the case in the MENA region, where mobile rates have been on the decline in markets where competition was introduced. The trend in price reduction often started even before the new competitor entered the market and was driven more by the incumbent's desire to grab market share before the launch of its competitor's services.

Chart 4: Mobile Peak Rate Trends in Selected MENA Countries



Source: Tarifica, Operators

The above chart illustrates the evolution of the mobile per minute peak rate over the period covering the three years before and the two years following the entry of a second mobile operator. The above chart shows that prices started to decline in the years prior to the entry of the competitor, in the period between the decision of ending the monopoly, and the official launch of the new operator's operations. Incumbents lower their prices before the entry of the competitor in order to retain existing subscribers and attract new ones, thus maintaining or increasing market share.

In the Saudi mobile market, the Saudi Telecommunications Company (STC) was the only player for the period 1995-2005. In 2004, the Communications and Internet Technology Commission (CITC) decided to end STC's monopoly. A second mobile license was awarded to UAE-based Etisalat, which started operations in May 2005 as Mobily (company name is Etihad Etisalat). During its monopoly days, STC had limited incentive to lower mobile service prices, enhance their quality, or increase the offers available for customers. In 2004 and 2005, and in preparation for the upcoming competition, STC introduced per second billing, in addition to massive discounts on connection, subscription and per minute rates (see Table 2 below).

The Bahraini mobile market also displayed evidence of the impact of competition on mobile service prices, choices and quality. 2004 was the first year of actual competition between the mobile incumbent Batelco and the new entrant MTC-Vodafone Bahrain (MTC-VB). A few days before the commercial launch of MTC-VB, Batelco announced price reductions, new postpaid plans, and several promotions (see Table 3 on opposite page).

Table 2: STC Price Reduction Scheme

Year	Plan	Connection	Subscription	Free Minutes	On-Net Peak	Off-Net
2003	Basic	27	16		0.13	0.11
	Silver	27	27	100	0.11	0.11
	Gold	27	53	400	0.09	0.09
2005	45 Plan	13	12		0.09	0.13
	35 Plan	13	9		0.12	0.13

Source: AAG, 2005

Table 3: Batelco Price Reduction Scheme

Plan	Peak Rate	Connection & subscription	Free Minutes
SimSim SimSim Shabab	-10%	-25%	
Yearly SimSim	-33%		
Freetime	Reduced		Doubled

Source: AAG, 2004

It should be noted, however, that there are limits to price competition. International experience shows that mobile service providers prefer to compete on quality of service, innovation and marketing, rather than only on price. Mobile operators have typically tried to contain price wars and to have a more nuanced and sophisticated competitive strategy.

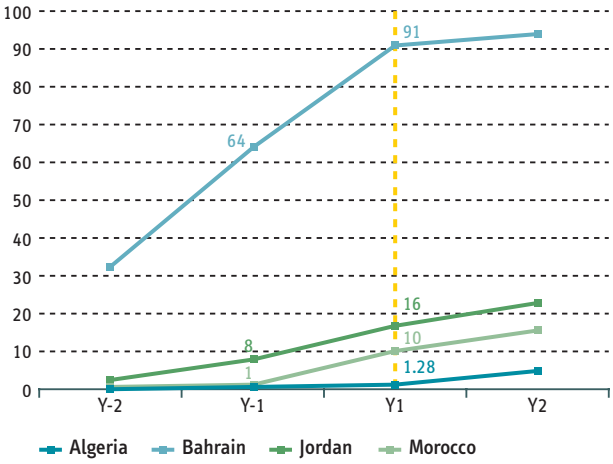
Subscriber Growth

Accompanying this evolution in competition in MENA mobile markets has been a surge in mobile penetration. Penetration in the MENA region increased from 1% in 1997 to 25% by the third quarter of 2005 . The price reductions and service improvements that have come as a result of competition have caused demand to increase. In a landmark World Bank study, Rossoto and Varoudakis estimated that full competition, all else equal, has increased mobile penetration by 2% a year on average across MENA countries.

To illustrate the impact of competition on penetration, the correlation between penetration and the entry of a second operator is examined. The chart below examines the evolution of penetration in four MENA markets, over the period covering the year of entry of a second GSM operator, the two years before and the two years after.

Competition was first introduced in the Moroccan mobile market in 1999 by awarding Meditel the country's second GSM license. Meditel launched operations in March 2000, making 2001 the first year of effective competition between the incumbent Maroc Telecom and Meditel. The results of competition were stunning, as penetration rose from just over 1% in 1999 to 10% in 2001, and reached 38% in 2005. In another example, the award of Bahrain's second GSM license to MTC-Vodafone Bahrain in 2002 also had a considerable impact on penetration. Mobile penetration in Bahrain increased from 64% percent in 2002 to 91% percent in 2003 – exceeding 100% in 2005.

Chart 3: Mobile Penetration Trends in Selected MENA Countries



Source: AAG

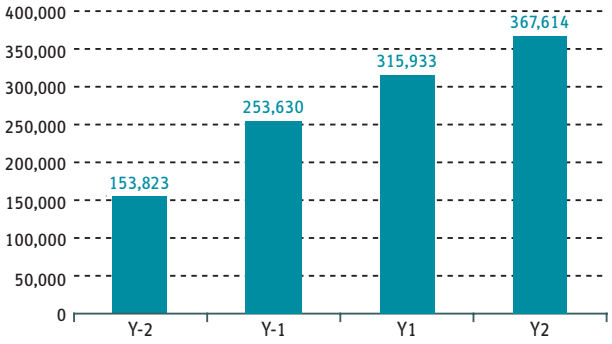
The increase in mobile penetration that has resulted from competition also points to a much larger economic impact of competition. By making mobile telephony more widely available, competition also contributes to making businesses more competitive and the economy more productive. In addition, the increase in penetration of mobile phones has helped some Arab countries to leap-frog some of the stages in telecom development that had been witnessed in more developed countries.

Mobile Sector Productivity

Competition in the mobile sector has considerably affected service efficiency. Greater competition has been associated with increased labor productivity. One measure of labor productivity is the ratio of revenues per employee. The following chart uses revenue per employee

data from the Jordanian mobile sector the year preceding, and the three years after, competition. Labor productivity in Jordan increased markedly over the four-year period.

Chart 7: Mobile Revenues per Employee in Jordan

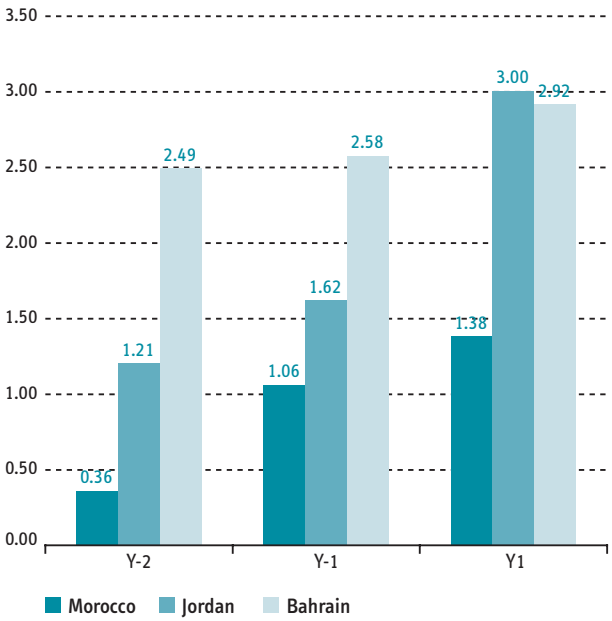


Source: ITU, Jordan's Telecoms Regulatory Commission

Mobile Revenues and ARPU

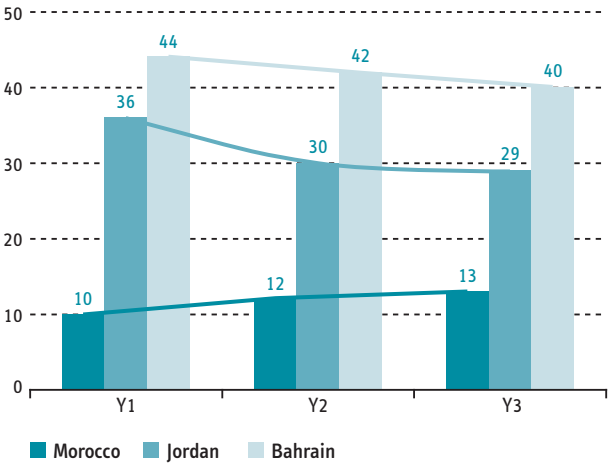
Competition in MENA mobile markets has significantly increased their respective sizes. Mobile market size can be measured in terms of the ratio of mobile telecom revenues to GDP. The following chart examines this measure for Jordan, Morocco and Bahrain over the two years preceding liberalization and one year after. The ratio of mobile telecom revenues to GDP has clearly increased in these countries with the introduction of competition.

Chart 5: Mobile Telecommunications Revenues to GDP in Selected MENA Countries (%)



On the other hand, the mobile Average Revenue Per User (ARPU) tends to decrease with increased competition. The following chart illustrates ARPU trends in Morocco, Jordan and Bahrain for the period covering the four years after the introduction of a second mobile operator. The chart displays ARPU drops for all three countries with the introduction of competition.

Chart 6: ARPU Trends in Selected MENA Countries



Source: AAG

Technology

In a bid to make mobile licenses attractive for newcomers, several MENA countries offered a 3G license along with GSM. This has introduced new technologies in these markets. The table on the opposite page exhibits mobile operators with a 3G license in the MENA region.

The entrance of a second operator in MENA mobile markets has brought about a new wave of services and products. This has stimulated the incumbent operator to innovate its network, in order to compete with newer technologies and services. Competition has been especially fierce in the multimedia area, where mobile operators have been competing over the fastest data transmission. For instance, STC has signed an agreement with Nokia for the supply of network equipment for Multimedia Message Service (MMS) nationwide. This has been in anticipation of the upcoming 3G network of Mobily (Etihad Etisalat), which should be launched in

mid-2006. Technology competition has also been fierce in Bahrain, where MTC-Vodafone Bahrain has agreed with MTC Kuwait to exchange MMS. In response, Batelco entered into a similar agreement with Wataniya of Kuwait.

Mobile 3G Licenses in Selected MENA Countries

Country	Number of mobile licenses	Operator and year of award	3G (Y/N)
UAE	2	• Etisalat (incumbent)	Y
		• Second license in 2005	Y
Bahrain	2	• Batelco (incumbent)	N
		• MTC Vodafone (2003)	Y
Kuwait	2	• MTC (incumbent)	N
		• Wataniya (1999)	N
Egypt	2	• MobiNil (1997)	N
		• Vodafone Egypt (1997)	N
Jordan	3 (effectively 4)	• Fastlink	N
		• Jordan Telecom	N
		• Umniah	N
Saudi Arabia	2	• STC (incumbent)	Y
		• Etisalat Mobily (2004)	Y

Note: Both Kuwaiti operators are offering hi-speed connections

Impact of Mobile Market Competition on MENA Economies

The introduction of competition in mobile telecommunications in MENA countries has had to overcome a number of challenges. These include:

- Lack of consensus for reform, and thus a clear government policy in some countries
- Incumbent opposition to competition and lobbying to preserve status quo (often made more effective by the prospect of privatization and governments' desire to generate higher revenues from the sale)
- Lack of competition culture
- Limited regulatory capacity and expertise; and
- Incomplete mandate for regulatory authority

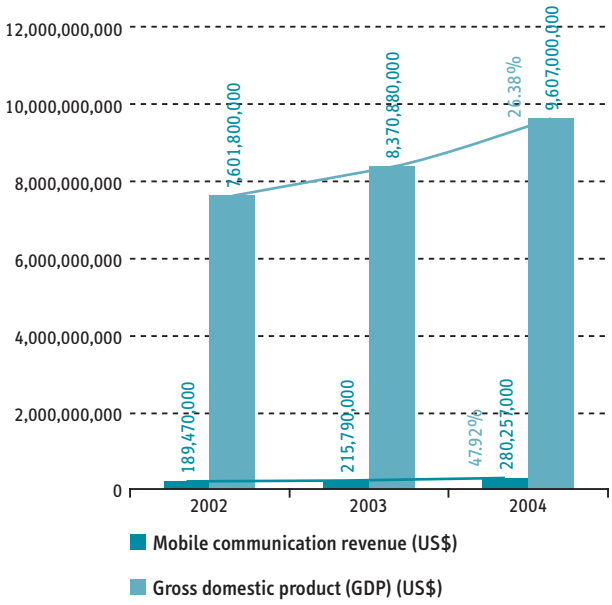
However, the impact of mobile market competition has still been pronounced on economic growth, rural development and global integration in MENA countries.

Economic Growth

The development of MENA mobile markets has resulted in the growth and development of their overall economies. Competition has reduced service prices, and thus promoted the accessibility of these services and lessened the barriers to information flow. Price reductions have also enabled the release of personal income for savings and investment expenditures. In addition, price reductions, alongside the resulting service improvements, have decreased the cost of doing business in these countries, and thus promoted investment. All of the above effects have had a positive impact on economic growth in MENA countries.

Mobile revenues have contributed directly to economic growth in MENA countries by increasing these countries' GDP. The chart and table below study mobile revenues and GDP for Bahrain for the period 2002-2004 - the period following the start of mobile market liberalization. The table shows that the marked increase in mobile revenues accounts for about 5% of the increase in GDP.

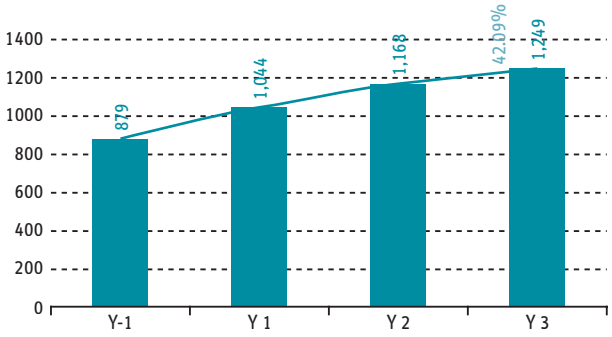
Mobile Revenue and GDP Trends in Bahrain (2002-2004)



Source: ITU

Mobile liberalization has also contributed indirectly to GDP growth through creation of additional jobs. The following chart and table study data on the number of employees in the mobile sector in Jordan. The number of employees in the sector increased markedly over the four-year period – a growth of 42% – which illustrates how mobile liberalization has spurred employment. This data discounts the impact on the creation of new jobs in related sectors, or indirect job creation.

Evolution of Employment in Jordan with Mobile Liberalization



Source: ITU, Jordan's Telecoms Regulatory Commission

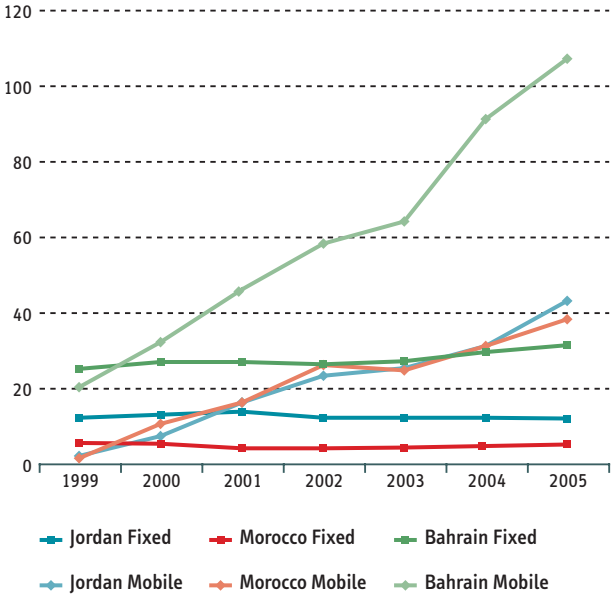
Finally, the incentive to introduce new technologies has increased with competition. This has modernized these countries' economies and encouraged the development of other technology-dependent sectors, thus creating jobs and promoting economic growth.

Rural Development

Competition has also resulted in the growth and development of the rural economies of MENA countries, which are usually forgotten. The relatively cheap rollout of mobile networks in contrast to fixed networks has resulted in the rollout of mobile networks in some rural areas before fixed networks. In addition, and in a bid to widen their subscriber base with increased competition, both incumbent and new mobile operators have widened their coverage. This has introduced telecommunications services to these areas and enhanced their development. New communication networks have integrated these areas into the national economy.

For example, in 1995, Morocco had four fixed lines per 100 inhabitants after many years of slow investment, and zero mobile phones per 100 inhabitants. In 2003, only eight years later, the mobile phone penetration rate in Morocco was 24%, whereas fixed line penetration had stagnated at its 1995 level. This phenomenon has been dubbed fixed-mobile substitution. The chart below illustrates this for Morocco, Bahrain and Jordan. For 2005, the ratio of mobile penetration to fixed line penetration was 365% for Jordan, 343% for Bahrain and 775% for Morocco, all significantly high figures.

Chart 8: Fixed versus Mobile Penetration in Selected MENA Countries



Source: AAG and Zawya

Global Integration

In addition, in several countries, new mobile operators were granted an international gateway. This has resulted in the reduction of international call service prices, which has promoted the global integration of these economies. The following table exhibits mobile operators with an international gateway.

International Gateway for Mobile in Selected MENA Countries

Country	Number of mobile licenses	Operator and year of award	International gateway (Y/N)
Lebanon	2 (state-owned)	• BOT contracts (1994) NCOC (2002) MA (2004)	N
UAE	2	• Etisalat (incumbent) • Second license in 2005	Y Y
Bahrain	2	• Batelco (incumbent) • MTC Vodafone (2003)	Y Y
Morocco	2	• Maroc Telecom (incumbent) • Meditel (2000)	Y Y
Kuwait	2	• MTC (incumbent) • Wataniya (1999)	Y Y
Egypt	2	• MobiNil (1997) • Vodafone Egypt (1997)	N N
Jordan	3 (effectively 4)	• Fastlink • Jordan Telecom Company • Umniah	N Y N
Saudi Arabia	2	• STC (incumbent) • Etisalat Mobily (2004)	Y Y
Algeria	3	• Algerie Telecom • OT Algerie (2002) • Wataniya	Y N N

Source: Connexus Analysis

Conclusion

The liberalization of mobile telecommunications has had a clear positive impact on the economies of the region. This impact can be measured in a number of ways, namely in the higher penetration rates, the lower prices, and the higher share of mobile telecommunications in the country's GDP. But the impact can also be measured in terms of greater investments, more jobs created, and greater integration into the global economy.

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The Mobile Phone Industry and Economic Development: A Case Study on Egypt

Introduction

There is ample evidence that the telecommunications industry can provide a 'big push' development strategy for the Egyptian economy. Pressed by unemployment and poverty concerns, the economy is in need of a role model at the industry level to provide adequate infrastructure development and a rising entrepreneurship spirit for others to follow. It is the purpose of this report to analyze the mobile industry in Egypt as a case study to a promising economic development impact on the national economy with strong regional implications.

The report is divided into several sections. The first section discusses general performance of the Egyptian economy including the use of telecommunication sector initiatives for solving the country's main economic problems. This is followed by a more specific analysis of the Egyptian mobile industry including labor productivity and financial return valuations. The current impact and future potential of Egypt's mobile industry on the economic development path of the Egyptian economy is then analyzed more fully by a discussion of key factors needed for enhancement of the industry. These include job creation, market competition, use of technology, regulation, social and community development, and macro development issues. Regional implications are then discussed followed by a conclusion section.

Egypt's Economy and ICT Sector Initiatives

Information and communications technology (ICT) is identified with computers, communications equipment, wireline and wireless telecom, semiconductor manufacturing, and other related services. It is a multi-sector economic activity with large spill-over effects. Jorgenson (2005) have estimated that although ICT producing industries generate less than 5% of world GDP, they have accounted for almost 50% of value-added productivity growth in certain countries. For the case of Egypt, Abutaleb (2005) estimates that if ICT investments are doubled, 1.3 million jobs can potentially be created in Egypt. One job created in the ICT sector in Egypt can generate up to eight other jobs in different sectors of the economy. In addition, due to spillover effects in non-ICT sectors, Egypt's GDP growth rate can be increased from the current 4% to a range of 8%-11% if ICT exports are intensified.

Egypt's economy can benefit greatly from an expected boom in the ICT sector. Egypt's relative socio-economic performance is summarized in Table 1. The main characteristics are an intensive 44% poverty rate, an 11% unemployment rate, 44% illiteracy rate, less than world average productivity ($3520 per capita relative to the world average of $4728), adequate gender development,

Table 1: Stylized Facts on the Egyptian Economy (Relative Performance)[1]

	Poverty (< $2/day)	Poverty gap	GDP (PPP) $ per capita	Gender GDI	Inequality GINI	Life expectancy	Illiteracy	Unemploy-ment
	% pop	%	$/person/yr	(0-1)	(0-1)	(yrs)	(%)	(%)
Egypt	43.90	0.11	3520.00	0.63	34.40	68.30	0.44	0.11
Mena	19.19	0.05	4518.75	0.65	37.96	68.50	0.32	0.15
Africa	65.38	0.35	2362.50	0.47	44.79	49.70	0.41	0.10
Asia Pacific	42.33	0.16	4218.64	0.67	36.95	66.55	0.18	0.04
Latin America	29.97	0.15	5633.16	0.74	50.85	70.64	0.12	0.08
Eastern Europe	14.26	0.05	8830.00	0.81	31.83	72.07	0.03	0.08
World	42.01	0.20	4727.59	0.65	41.82	63.35	0.21	0.03

and low poverty gap (11%). Potential for Egypt's ICT sector includes reducing the poverty rate, softening the problem of unemployment, and raising the constraint of low output productivity. Effective investments in the Egyptian ICT sector can slash the unemployment rate down to 5%, half the current poverty rate down to 22%, and provide correct incentives for an economy-wide productivity gain to be on par with the MENA region (ESCWA 2005, AmCham 2002, and USAID 2000).

Table 2: Egypt ICT Sector Initiatives

	Initiative	Development Impact
1	E-learning	Illiteracy & Unemployment
2	ICT Certification	Job Spillover Effects
3	Vocational	Information Base
4	E-commerce	Informal Sector
5	E-government	Reduce Corruption
6	E-employment	Unemployment
7	E-health	Poverty
8	E-readiness	Export Promotion
9	E-access	Technology
10	E-society	Information Age

There are ten explicit ICT initiatives which can solve Egypt's pressing problems. These are given in Table 2 and can be summarized as follows[2]: (1) E-learning to combat illiteracy and provide distance and lifelong learning which can promote job efficiency and create employment, (2) ICT certified training to intensify the use of ICT in the workplace and create job spillover effects, (3) ICT vocational training for secretarial and clerical skills which can produce a solid information base in the economy, (4) E-commerce to enhance trade and provide incentives for formalization of the huge informal sector, (5) E-government to serve citizens and reduce transaction costs and corruption, (6) E-employment concerned with ICT based solutions that generate remote working habits and target the unemployed, (7) E-health such as telemedicine in rural impoverished communities to improve the welfare of the poor, (8) E-readiness to increase the degree to which non-ICT sectors are networked to the world supply chain with the objective of increasing economy-wide productivity and export promotion, (9) E-access by intensifying Internet access and wireless communications, and (10) E-society which is a long term target of a networked society in education, business, community, and government activities.

General Performance of Egypt's Mobile Phone Industry

As part of Egypt's telecom sector, the mobile industry in Egypt is a duopoly market structure with pricing heavily regulated by the government based on a price ceiling scheme. Yet, existing firms have generated higher than average profits due to artificial barriers to entry. The industry generated high premiums and labor productivity is almost similar to a typical multinational corporation. Egypt's current total mobile subscribers stand at nearly 12 million. Since its inception in 1998, the mobile telecom

industry in Egypt has been flourishing with controlled liberalization. The industry has established itself with comfortable margins, excessive earnings, high sector growth rates, and over-priced average revenue per user. MobiNil has been the first-mover with an approximate market share of 53%, and Vodafone Egypt (Click) the second-mover with a current 47% market share. As part of the telecom sector, the mobile industry finds itself within a 16% sector penetration rate, a 17% telecom sector CAGR, in addition to being a highly profitable business within a sector which contributes only 4.05% of the country's GDP[3].

Table 3: Stylized Facts on Telecom Sector and Mobile Industry Performance in Egypt (Key Indicators)[4]

Telecom Sector	Value	Comment
Telecom Sector Growth	17% (CAGR)	High
Telecom Penetration Rate	16%	Low
Telecom Share of GDP	4.05%	Low
Telecom Job Creation Rate	1:8	Huge potential
Sales Tax Rate	15%	Moderate
Mobile Industry	**Value**	**Comment**
Total Subscribers	12 million	Large addressable market estimate
Market Players	Mobinil (53%) Vodafone (47%)	First-mover advantage
Employment Mobinil Vodafone	Over 4,000 1916 employees 2200 employees	Under-employed
Sales	$ 1.6 billion per year	Almost 2% of Egypt's local priced GDP
ARPU (5 year forecast)	-6.1% annually	Over-priced
Net Income	$349 million per year	
Weighted Average Share Price Premium (Discounted)	31.0%	High premium
Net Profit Margin	21.3%	Relatively high
Leverage	1.17	
Labor Productivity Mobinil Vodafone	$160,520 per year $144,672 per year $176,854 per year	Superb With Vodafone having an edge
Risk (Capital Asset Pricing: Beta)	1.5	Medium risk business
Return on Investment	19.7% (DuPont Method)	Above normal
Cost of Debt	9.5%	High burden
Assets	Almost $2 billion	
Return on Assets	17.5% (lower bound)	
Growth of EPS (5 yr forecast)	21.7% annually	Good potential
Current Ratio	0.77	Low
Asset Turnover	0.79	
Return on Equity	40.4% (lower bound)	High

Table 3 is a synopsis of the main variables describing the performance of the Egyptian mobile industry. Although MobiNil has a slightly higher market share and solid financial fundamentals, Vodafone Egypt performs well and is converging towards higher labor productivity which will significantly improve the company's business position in the long term. The industry produces sales revenues of $1.6 billion, with an average labor productivity of $160,520 per employee (compared to less than $4,000 per capita labor productivity for the whole economy), generates a return on investment (ROI) of 19.7% compared to an economy risk-free rate of 12.5%, and operates under medium capital asset risk of 1.5 (compared to the benchmark 1.0 level of the Egyptian financial market). On the other hand, the industry's assets cover only 77% of its liabilities, the industry has 17% additional leverage than other markets, and cost of debt averages to a significant 9.5%. In essence, the industry is highly profitable in investment and asset returns, employs highly productive people, and carries an extra burden of debt and financial leverage. Its prospects for expansion in the future are high with potential entry of one or more new operators.

Impact on Economic Development

There is no doubt that the Egyptian mobile industry has had a significant impact on the country's level of economic development and will continue to do so in the foreseeable future. Such an impact has been multi-dimensional. The industry has employed high labor productivity, investment performance has been profitable with medium risk, the adoption of technology has been slow compared to international levels, market competition has been a duopoly with a expected entry of new operators, government regulation mainly concentrated on pricing, and the industry has had strong ties with the local community.

Job Creation

Unemployment in Egypt is a pressing problem. Egypt has an estimated 11% unemployment rate, one of the highest in the world. The government of Egypt usually targets a creation of 150,000 jobs annually. The mobile industry, on the other hand, currently employs just over 4,000 individuals with a 1:8 spillover effect on other sectors of the economy. Hence, the industry has the potential to contribute to one-quarter of all job creation efforts. This is a strong potential. With further market entry a factual reality, the impact potential can be even higher.

On a second front, Egypt's illiteracy is also a pressing problem. Egypt contains a 44% illiterate population, higher than Africa's 41%. Creating jobs in the mobile industry and the telecom sector in general, with good pay, will create incentives for combating the illiteracy problem in Egypt. This can be done either by self-motivation or through the E-learning initiative. The developmental impact through human capital accumulation is estimated to be highly significant, with a 1% increase in human capital, such as combating illiteracy, significantly contributing to GDP growth rates by as much as 2.5%[5]. A word of caution must be mentioned here. This situation is not sustainable in the long term simply because the industry is moving towards more capital-intensive allocations. Hence, the current situation is an opportunity which must be realized in the short to medium term and, if not realized, will constitute an opportunity loss to the economy in the long term.

Productivity

Labor productivity in the mobile industry is excessively superior. Based on net income from operating activities, one labor employed in the industry is forty times as productive as the average GDP per capita rate. The average labor productivity in the industry is estimated at $160,520 per year compared to Egypt's maximum GDP per capita rate of $4,000 per year (purchasing power parity). There are several reasons for such performance. One reason is low labor intensity. Second is efficiency wages based on comfortable margins. Third is task specialization of the technical labor force in the industry. Segmenting the industry into the two duopoly firms, it has been established that Vodafone Egypt carries an edge over MobiNil

in labor productivity amounting to an extra 22% per employee . Even though Mobinil has a lower cost of debt and superior stock price valuation by most financial standards, Vodafone Egypt has a more productive labor force. Hence, both firms are differentiated by factors of production: Mobinil is more capital productive while Vodafone Egypt is more labor productive. In essence, since there is ample opportunity for a third entrant in the market, the industry itself, as determined by number of firms, has not yet reached equilibrium. Consequently, the industry is highly productive and is characterized by under-employment compared to the economically efficient outcome[7].

Investment Performance

It is fair to suggest an infant stage for the mobile industry in Egypt when analyzing financial performance. Although it contributes only 2% to the country's GDP, the industry achieves a net profit margin of 21.3% which is relatively high compared to a risk free range of 9% to 12%. Investment performance shows a low current ratio (0.77) coupled with a high return on equity (40.4%). Based on the DuPont method, the Return on Investment (ROI) for the industry is calculated at 19.7% which implies above normal performance. The cost of debt is a high 9.5%. The difference between the last two rates is 10.2% which lies within the risk free range. Based on the capital asset pricing model (CAPM), the industry's beta factor is estimated at 1.5. Hence, although investment performance is superior, so is the risk level. Moreover, the industry carries an excess burden of financial leverage amounting to 17% compared to other markets. Both high risk and high leverage must make company CFOs annoyed. Until now, however, shareholders have been happy.

Market Competition

There is no doubt that the current market structure is a duopoly. MobiNil has had a first mover advantage in terms of market share estimated at 53% while Vodafone carries the rest. Licensing for a third entrant is underway based on government incentives. Hence, the duopoly will inevitably turn itself into an oligopoly soon. This has strong repercussions on the nature of competition in the industry. Under the current duopoly system, price competition between the two firms has been relaxed by a market share balance. This situation will no longer be the case once a third player enters the market. Incumbent firms will find themselves driven into a price-taking situation rather than a price-making one, and effectively, long term market shares will drop. This is evident in the five year ARPU forecast of a declining 6% rate annually, hence suggesting that current market competition has yielded an over-priced market. This is a binding constraint even though earnings per share have a five year future growth rate of 21.7% annually. Thus, the industry is fully capable of withstanding substantially lower prices when a third player enters the market. From duopoly to oligopoly, the mobile industry is moving towards the "perfect competition" benchmark which is a good sign of economic development for an infant market.

Use of Technology

Technology adoption is Hicks-augmenting such that capital intensity drives technological progress in the industry. Consequently, the industry carries a sizeable asset value of $2 billion and generates a comfortable return on assets estimated (lower bound) at 17.5%. In addition, such technology is based on the GSM framework which is currently moving from middle second generation to third generation. However, the use of technology for economic development is weak. The adoption of technology by consumers is heavily based on consumption demonstration effects rather than necessity. An average Egyptian household may be living in a poor neighborhood but is still willing to pay a large percentage of his income on mobile phone services. This is substantially due to the non-existence of appropriate technology, i.e. technology that suits the needs of the community. Moreover, the rate of local innovation is almost negligible. Hence, technology is borrowed and stamped on the paycheck of the public without real local technological innovation. On the other hand, there is a rational reason for such behavior. Technology dependence caused by a high rate of techno-

logical obsolescence of the mobile phones themselves constitute a major social network constraint as binding by the social consensus amongst significant others in the population. In other words, there is a consumption bandwagon effect in the market and the mobile phone industry can hence be viewed from a technological angle as a social network rapidly changing more than the desire of its constituents. Through technology, supply has followed the effects of its own demand.

Regulation

Pricing in the industry has been a combination of second-degree and third-degree pricing with no evidence of first-degree pricing (i.e. no evidence of price discrimination)[8]. Hence, price plans are a combination of non-linear and segmented pricing. Regulation, on the other hand, is based on a price ceiling equivalent to 5 cents per minute. This type of regulation is usually implemented for goods with symmetric preferences. However, it does not offer a mechanism to regulate asymmetric preferences such as those found in the Egyptian mobile market. There exist nonlinear preferences in the market - i.e. consumers' preferences are asymmetric along minutes called. This gives a consumer an exact level of utility for an extra minute of calling, yet the associated disutility (due to budget constraints) of lowering minutes called generally exceed the utility gain from more calling. Due to this, a different regulation scheme is recommended based on total number of minutes called. Instead of a fixed price ceiling for every minute called, a better regulation would be for an adjusted price ceiling based on total minutes called. In addition, the current regulation does not give a technological incentive for value-added technology adoption across the supply chain. This is evident from borrowed technologies rather than adoption of local or appropriate technology. Government regulation must also provide taxation benefits in the form of additional tax deductions for expenditures on specific community development projects, such as those related to education and poverty.

Social and Community Development

The mobile industry in Egypt has relatively strong ties with the local community. Both companies include "community development" in their mission statements or company profile objectives. The industry, in general, has invested directly and indirectly in society through a variety of methods. These include charitable donations, sports sponsorships, educational opportunities, health vaccination schemes, and environmental compliance. Concerning the environment, the industry is obliged to keep within NTRA environmental standards of specific bandwidth radio frequency fields which are based on dual health and security standards. Each firm, however, has differentiated itself from the other in the type of community services offered. MobiNil, for example, has specialized itself with direct community development. Its range of community service activities are musical charity concerts, secondary school training, help for children with special needs, UNICEF polio vaccination campaigns, and international relief efforts such as subscriber donations to Tsunami-hit children in Asia. Its sports development programs are relatively limited but nevertheless include handball and bridge. Vodafone Egypt, on the other hand, has basically specialized itself with sports sponsorship. It has very strong ties with more than ten national sport federations. Moreover, it has sponsored a multitude of sports events and competitions including auto sports, bodybuilding, diving, fencing, football, paralympics, sailing, shooting, water polo, wind surfing, and many others. Both companies have utilized community development as a tool in aggressive marketing campaigns, one in charity events and the other in sports events. Long term impact on the local community is still in its infant stage.

Macro Development Issues

Along with the telecom sector, the mobile industry in Egypt contributes to 4.05% of the country's GDP. This is compared to 11.5% of the economy's receipt from tourism service activities. Hence, the Egyptian telecom sector

accounts to more than one-third of the country's most famous asset receipts, i.e. tourism. It is rather remarkable that an infant market so young in economic age has achieved a significant level on economic activity compared to the economic returns from ancient civilizations. Hence, as a service sector in the macroeconomy, the telecom sector has a huge potential. This is more intensely seen when factors of production are more closely analyzed. In terms of labor resources, the telecom sector has a one-to-eight job spillover effect to other sectors and hence has the potential to slash the economy's unemployment and poverty rates by half. In terms of capital resources, financial returns exceed market interest rates by more than ten percentage points. Thus, the developmental returns to business entrepreneurship have a very strong potential. Both factors, however, are constrained by a 17% sector growth rate. Taxation benefits to the macroeconomy have been limited by a 15% sales tax rate. Hence, consumers and not the firms themselves are the ones who generate tax receipts in the macroeconomy. The mobile industry was granted a 5-year tax holiday from the government which can be extended to ten years based on recent investment law initiatives. It is estimated that $220 million worth of tax opportunity receipts have been lost due to such tax holidays. In addition, on a macro scale, the industry has benefited high end consumers with almost negative spillover effects to the lower end of the consumer spectrum, because of demonstration effects and dependency on borrowed technologies.

Regional Implications

As part of the Millennium Development Goals of the United Nations, the MENA (Middle East North Africa) region has had a weak performance in establishing those goals. In particular, unemployment rates are highest in the world reaching 15% on average. Suffice it to say that no other region, including Africa, has a higher unemployment rate. Illiteracy is also a major issue. The MENA region is the second worst region in the world with a 32% illiterate population, a little lower than Africa's 41%. These two problems have created a large reserve army of the unemployed and have undoubtedly contributed to lowering economic productivity of the region as a whole. Aside from oil and gas, the MENA region does not carry any competitive advantage in a commodity or sector of commodities compared to other regions of the world. Yet, some countries in the region carry a comparative advantage in agriculture which has low value-added economic value. Consequently, there is a dire need for a "big push" development strategy on a regional level to combat these unresolved problems and to provide a brighter future for a helpless endogenous non-participatory population.

The information and communications technology (ICT) sector could be the key to such a strategy. The MENA region could become the IT hub for Africa so long as the telecom sector becomes the connecting hub of the region's own industrial development. In other words, the telecom sector, and mobile industry in particular, could provide a role model in which other sectors can benefit greatly. Given its characteristics of pecuniary market externalities, positive technological spillover effects, employment generation, poverty alleviation, education enhancement and E-learning initiatives, in addition to its ability to provide a solid information base and a high level of technical infrastructure with low transaction costs, the telecom and mobile sector could be the missing link towards regional integration and superior regional competitiveness. This, however, would require a great deal of effort and will by the general public, business community, and policy makers, alike.

Specifically, a dual approach must be undertaken for the telecom sector to provide a big push development in the MENA region: a bottom-up and a top-down hybrid approach. A bottom-up (grass-roots) approach targeting community philanthropists should achieve positive short term results in poor areas once E-initiatives are in place. This would mainly target the poverty problem in

addition to short term education development such as combating illiteracy. Moreover, a top-down (hierarchical) approach targeting the role of policy makers for long term initiatives and policies, such as development of ICT infrastructure that connects isolated segments of the population to main cities, industrial areas, and education sector. This would solve the unemployment and productivity problem of the region and provide positive long term results. In general, once the mobile industry has established itself within the telecom sector, and once the telecom sector has established itself within the local economy, and once local economies become regionally inter-connected by the use of locally innovated ICT technologies, only then would a regional big push become a reality.

Conclusion

The mobile industry in Egypt is in its infant stage and thereby its impact on economic development is has not fully matured yet. However, there are several dimensions of strengths, weaknesses, opportunities, and threats which are already evident. These are summarized in Table 4.

In addition to economic development, there are several regional advantages in social development and political participation. Furthermore, if these three elements of development are intensified, the mobile and telecom sector can prove to be a big push for the region in the long term and can provide a role model for other industries to follow.

Table 4: SWOT Impact Matrix

Strengths	Weaknesses	Competitive position
High labor productivity Job spillover effects Safe financial returns Infant market Supply chain externalities	Excessive leverage High cost of debt Borrowed technology Tax opportunity loss Weak local innovation	Differentiated market with a value-added advantage
Opportunities	**Threats**	**Outlook**
Entry Better pricing regulation Regional potential E-initiatives Big push	Collusion Demonstration effects Lagged technology Weak infrastructure Illiteracy persistence	Local Oligopoly with a Regional Hub and towards a Long Term E-society
Potential	**Risk Position**	
Reduce Unemployment Reduce Poverty Low-end Consumers	Risk of a Cartel Solvency risk Obsolete GSM Technology	

Notes

[1] Sources include the International Labor Organization (ILO), UNDP Human Development Reports, World Bank World Development Reports, Social Indicators for Development, International Historical Statistics, Egyptian CAPMAS Database, and Egypt Human Development Reports. Please refer to Selim (2004) "Relative Performance of the Egyptian Economy: A Human Development Approach." for more detailed information.

[2] Summarized from ESCWA (2005), Kamel (2005), MCIT (2005), and Soliman (2005).

[3] See BIS Shrapnel (2004), Global Investment House (2005), International Telecom Intelligence (2005), MCIT-CIT Egypt (2005), KPI Report (2005), Pyramid Research (2005), in addition to company financial statements and auditor reports found at <www.mobinil.com> and <www.vodafone.com.eg>.

[4] Author's calculations with special reference to company financial statements, auditors' reports, and other investment house reports. Unless otherwise specified, all data are for year 2004, and forecasts until 2009.

[5] This has been scientifically proven by two different methods. One is found in Ragui Assad's "Egypt's Labor Market in an Era of Reform", AUC Press, and the second in Selim (2004) "Human Capital Accumulation and Long Term Economic Growth: The Case of Egypt", in *Quality Education in Egypt*, AUC Press Publication. Assad takes a sectoral approach whereas Selim takes on a more quantitative Granger-causality approach.

[6] This is calculated based on net income from operating activities and job employment for both companies obtained from company financial statements. However, even though Vodafone Egypt has an edge in labor productivity, MobiNil has an edge in lower cost of debt and superior financial performance especially in its stock market price and market valuation. Hence, one is more labor productive and the other is more capital productive. This could be a healthy way of differentiation in factors of production between the two firms. Whether such differentiation has been planned ahead or not seems not to worry government regulators, and rightly so.

[7] Standard microeconomic analysis suggests that when an industry is in the task specialization phase, there is more room for entry because average cost minimization in a competitive industry must be complemented by a minimal degree of labor congestion, a fact which has not yet been realized in Egypt. Furthermore, since the addressable market is estimated at 14 million subscribers while the current number of subscribers is 8.6 million, then there is room for 5.4 million additional subscribers in the medium term which can be captured by a competitive third entrant.

[8] First degree pricing is a form of complete price discrimination, such as charging maximum willingness to pay for every consumer, hence suggesting non-uniform pricing. Second degree pricing is nonlinear pricing for each consumer good e.g. quantity discounts. Third degree pricing is segmented pricing by offering different consumers different pricing opportunities e.g. minute plans.

Sources

Abu Taleb, A., E. Abdel Mottaleb, and D. Gamal (2005). "A Computable General Equilibrium Model to Study the Impact of the Information and Telecommunications Technology (ICT) on the Economy of Egypt," *Economic Research Forum Annual Conference*, Sectoral Themes, Cairo, Egypt, December

AME Info (2005), "Egypt's Mobile Connections Outstrip their Fixed Line Counterparts Following a Big Jump in Low Income Subscribers," *Research and Studies Mediacenter*, <http://www.ameinfo.com/news/Research_and_Studies/>

American Chamber of Commerce in Egypt (2002), "Telecommunications in Egypt," *AmCham Business Studies Series*, Egypt

BIS Shrapnel Pty Limited (2004), *TAG (Technology Assistance Group) Market Intelligence Report*, "Mobile Communications Strategic Information Service in Middle East Markets," Australia

BIS Shrapnel Pty Limited (2005), *Business Research and Forecasting*, "Cellular Forecast Middle East 2005-2010"

Economic and Social Commission for Western Asia (ESCWA) (2005). "Information and Communication Technologies for Employment Creation and Poverty Alleviation in Selected ESCWA Member Countries," *United Nations Report E/ESCWA/ICTD/2005/2*, New York, April

Egyptian Company for Mobile Services and Subsidiaries, Ernest & Young and KPMG Hazzem Hassan, *Consolidated Financial Statements and Auditors' Report*, December 31, 2004

Egyptian Company for Mobile Services, *Earnings Press Release*, Investor Relations, 2003-2005

Global Investment House (2005), Global Research-Egypt, "Egyptian Telecom Sector," Kuwait, July

Gray, Ian (Chair), *Commercial International Brokerage Company*, Conference Transcription, Vodafone Egypt Earnings Release, 9 May 2005, 17:00 GMT

International Telecoms Intelligence (2005), *CMS Info*, "Egypt Telecommunications Market Intelligence Report," <http://www.biz-lib.com>

Jorgenson, Dale (2005), "Accounting for Growth in the Information Age", in Philippe Aghion and Steven Durlauf, eds., *Handbook of Economic Growth*, Amsterdam-North Holland

Kamel, Sherif (2005), "Egypt Goes Digital," *The American University in Cairo*, Faculty of Business Administration, Project Report.

KPI Report, Vodafone Egypt, Preliminary Announcement Year Ended March 2005 Results, May

Ministry of Communications and Information Technology (2005), "Egypt's Vision of the Information Society," *E-Bridges, E-Readiness Equal Access for All*

Ministry of Communications and Information Technology (2005), "Local CIT Industry Indicators," *CIT Egypt*, <http://citegypt.com>

MobiNil, Community Relations, <www.mobinil.com/community_relations/social>

MobiNil, The MobiNil Family, Employment, <www.mobinil.com>

Pyramid Research (2005), "Egypt: Third Mobile License in its Future?," <http://www.pyramidresearch.com/index.htm>

Soliman, Nihal (2005). "E-Readiness Assessment for Egypt," *WSIS Africa Preparatory Conference*, Ghana, February

Selim, Tarek (2004). "Relative Performance of the Egyptian Economy: A Human Development Approach," in *Reform in Egypt: Opportunities and Challenges*, AUC Press.

Summerton, Rys (Chair), *ActionCall*, Conference Transcription, MobiNil Third Quarter Results, 10 November 2005, 14:30 GMT

United States Agency for International Development (USAID) (2000). "Egypt ICT Sector Reform," Project No. 263-0282, FY 2000-2007

Vodafone Egypt, Community: Health, Education, and Sports, <www.vodafone.com.eg/jsp/personal/sponsorship>

Vodafone Egypt Telecommunications Company, Kamel Saleh ACA F.E.S.A.A. *Consolidated Financial Statements Together with Auditors' Report*, May 18, 2005

Vodafone Egypt Telecommunications Company, Corporate and Financial Profile, *Corporate Bro 03-01216*, September 2003

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Telecom Companies and Arab Stock Exchanges: A True Love Affair

Telecom IPOs Create a Wealthy Generation of Arab Investors

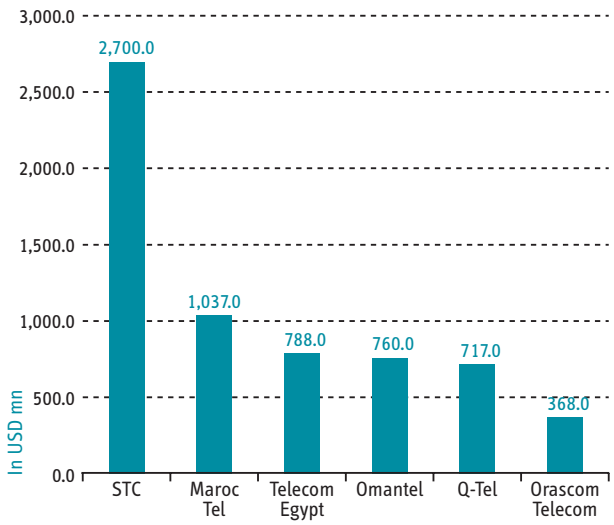
The regional governments have started the process of gradually divesting their stakes in the telecom incumbents. To name but a few of these moves, the Tunisian and Jordanian governments are selling stakes ranging between 35% and 40% in their respective telecom incumbents. In early December 2005, the Egyptian government sold a 20% stake in Telecom Egypt in a landmark IPO worth close to US$1 billion. The liberalization of the sector is part of the region's commitment towards meeting WTO requirements and, many Arab governments have issued decrees and taken initiatives to partially open up the telecommunication sector – both fixed line and wireless.

Telecom regulators in Oman, Jordan and Saudi Arabia have already awarded new mobile licenses, namely to Qatar Telecom (also known as Q-Tel), Umniah and Etisalat, respectively. The UAE has already ended Etisalat's monopoly by issuing a second mobile license to a new operator which is expected to start offering its services by the end of 2006. Saudi Arabia is planning to issue a third mobile license by end-2006, following the end of the two-year exclusivity period for Etihad Etisalat (35% owned by Etisalat), which paid over US$3.25 billion for the second GSM mobile license. Etihad Etisalat, branded as Mobily, attracted an amazing one million subscribers in its first month of operation.

In Egypt, the government is expected to issue a Request For Proposal (RFP) inviting companies to bid for the third mobile 2G/3G license before the end of the first quarter of 2006. The winner is likely to face tough competition from the existing players which are currently feasting on an ever growing market with a population of 72 million. There has been some discussion in Qatar about de-regulating the markets. Qatar's mobile penetration was over 90% by Q3 2005 with Q-Tel being the only mobile player. We believe it is likely that the government will issue a new license to end the monopoly of Q-Tel.

The fixed line incumbents privatized by the regional governments ranked first in terms of the size of their IPO transactions. The IPO of Saudi Telecom in 2002 was the single largest IPO in the history of Arab telecom IPOs, raising more than US$2.7 billion. Maroc Telecom was the second largest IPO raising US$1.04 billion, followed by Telecom Egypt and Qatar Telecom which both raised US$788 million and US$ 717 million respectively.

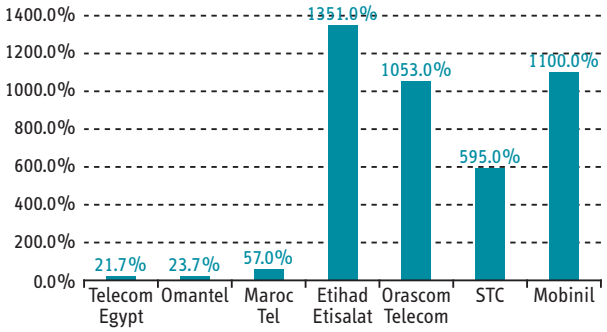
Chart 1: Size of Selected Telecom IPOs



Source: Zawya IPO Monitor

The telecom IPOs created a new wave of Arab wealth, owing to the spectacular returns these stocks generated – returns which are unheard of in developed markets. Just to envision the sheer amount of wealth generated by these telecom IPOs, a US$1,000 invested since the listing date in Etihad Etisalat, Mobinil, Orascom Telecom and MTC would have generated US$14,500, US$12,000, US$11,500 and US$33,500, respectively.

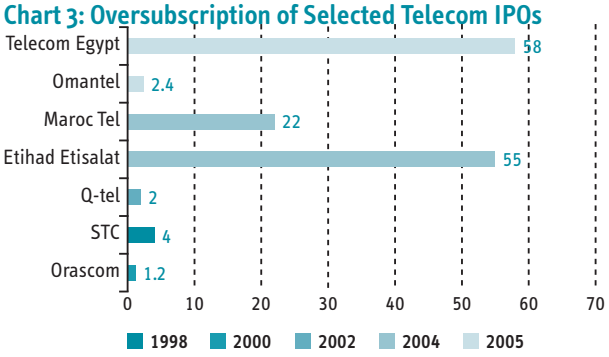
Chart 2: Performance of Telecom Stocks since IPO



Source: Zawya IPO Monitor

Such incredible returns from telecom IPOs have lured many investors and suddenly transformed them into telecom savvies. Orascom Telecom is one of the few stocks which was oversubscribed by as little as 1.2 times back in the year 2000. However the stock proved to be one of the best performing telecom stocks in emerging markets few years after, generating a return in excess of 1,000%. It becomes apparent from the graph below that more recent telecom IPOs such as Telecom Egypt, Maroc Telecom and Etihad Etisalat have enjoyed huge euphoria by investors, oversubscribing by 58 times, 22 times and 55 times, respectively.

Chart 3: Oversubscription of Selected Telecom IPOs



Source: Zawya IPO Monitor

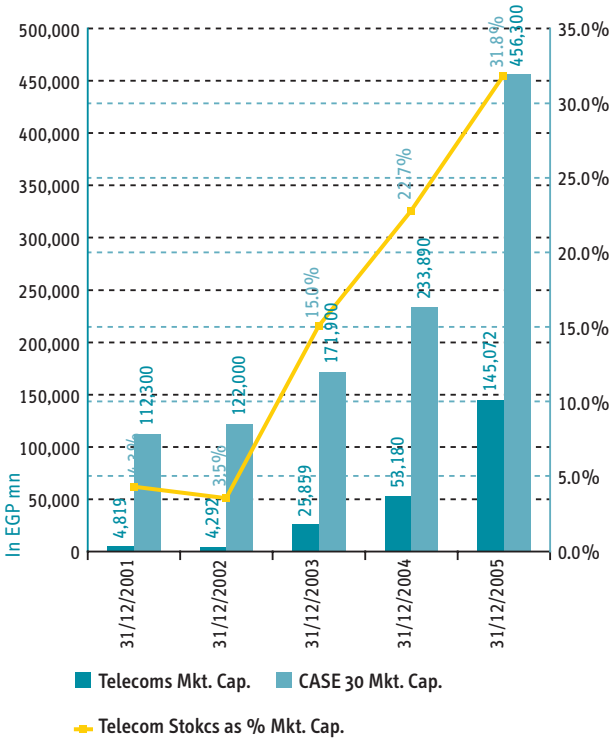
The Hype, Case by Case

Egypt

Telcos share of total market cap in Egypt jumped from 4.3% in 2001 to 32% in 2005.

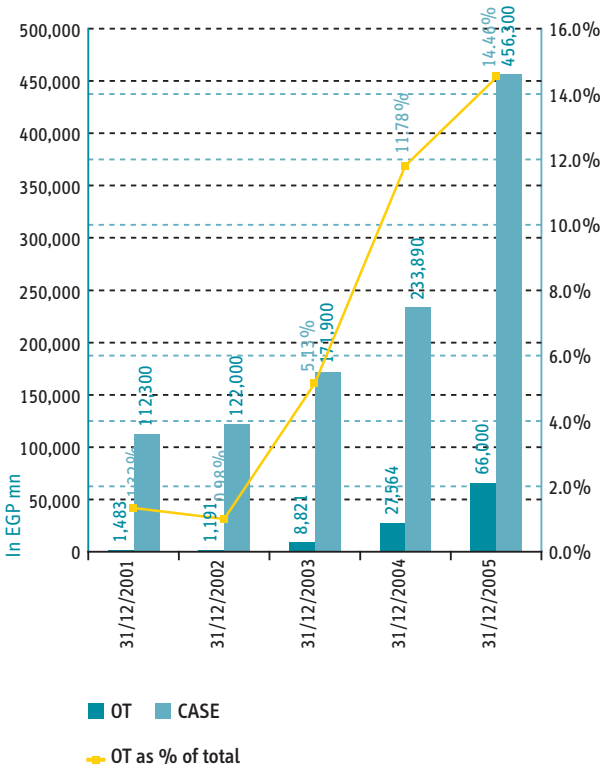
In 1998, the Egyptian government sold the mobile network assets of Telecom Egypt to a private sector consortium led by Orascom Telecom and France Telecom. The then newly formed company was named Mobinil and was later floated on the Cairo & Alexandria Stock Exchanges (CASE) at EGP10 per share. Later, the year 2000 saw Egypt's largest IPO at the time, when Orascom Telecom floated its shares on the market in a transaction worth EGP1.5 billion. By the end of 2001, the market capitalization of telecom stocks reached EGP4.8 billion, representing 4.3% of CASE market capitalization. With the listing of Egypt's second mobile operator, Vodafone Egypt, at the end of 2003, the total market capitalization for telecom stocks reached EGP25.8 billion, bringing its share of the market total capitalization to 15%. In 2005, the long-awaited floatation of Egypt's incumbent operator, Telecom Egypt (TE), took place. TE floated 20% of its shares in a landmark transaction which amounted to US$778 million. By the end of 2005, the total market capitalization of telecom stocks amounted to EGP145 billion (US$25.3 billion), bringing its share of the Egyptian market to an astounding 32%.

Chart 4: Telecom Stocks As % of CASE



Source: CASE Website, Reuters

Chart 5: Orascom Telecom Listing



Source: CASE Website, Reuters

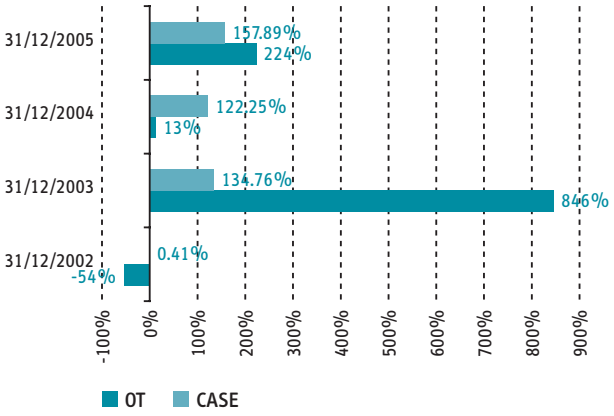
Orascom Telecom:

Orascom Telecom (OT) is by far the most remarkable telecom story in emerging markets. Starting with a stake in single operator in Egypt (Mobinil), the company grew to become a telecom giant with operations in more than 6 countries across three continents. Led by a pioneering businessman, Naguib Sawiris, the company leaped from one success story to the other. With a mere 1% share of Egypt's capital markets in 2001 and a market capitalization less than EGP1.5 billion, the company evolved as a market heavyweight with a market capitalization of EGP66.45 billion (US$11.5 billion) by end of 2005, positioning itself with more than 14% of Egypt's total market capitalization.

OT is by far the best performing telecom stock in emerging markets.

Due to poor capital market conditions in Egypt coupled with economic recession, OT lost more than 90% of its market cap at the end of the year of its flotation. In 2003 and as capital market conditions started improving indicating a start of a bull run in Egypt's capital markets, and OT's management orchestrating its emerging growth story, the stock recorded an explosive return of more than 800% in one year. The stock never looked back in the following years, adding 13% and 224% in 2004 and 2005 respectively.

Chart 6: OT performance vs. CASE Index

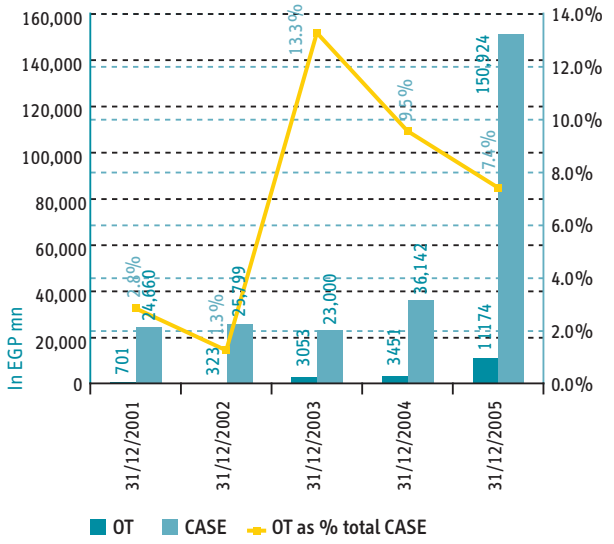


Source: CASE Website, Reuters

OT's Trading value exploded from less than EGP1 billion in 2001 to EGP11 billion in 2005.

OT continued to break new grounds on all fronts as evidenced by a huge surge in trading activity from a mere EGP700 million in 2001 to a staggering EGP11 billion in 2005. At the end of 2005, OT's share of total trading on CASE stood at 7.4%.

Chart 7: OT Trading History



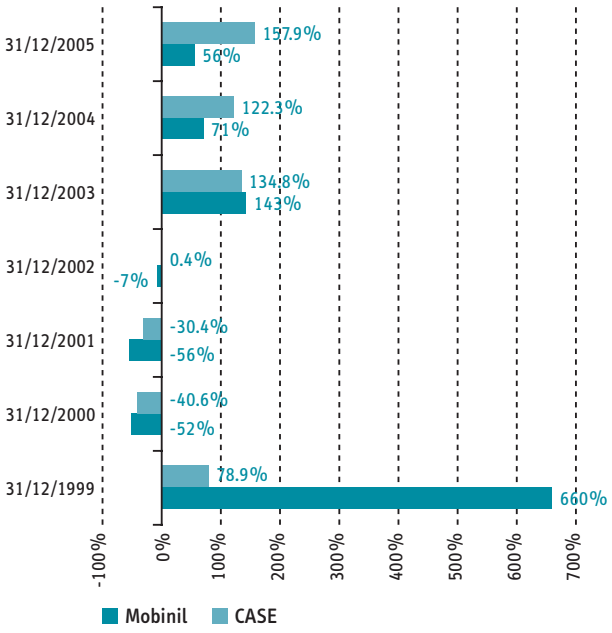
Source: CASE Website, Reuters

MobiNil:

Yet another Egyptian mobile star performer.

Mobinil is Egypt's first mobile operator and the first telecom company to list on the Egyptian stock market. Offered at EGP10 per share in mid of 1998, Mobinil was affordable to small investors in Egypt. Back in 1998, the Egyptian investors had little awareness about stock market investing, as the stock market was dormant for more than half a century. Interest in the stock market resurged following the revival of the privatization program by the Egyptian government which offered for sale such companies as Nasr City Housing, Suez Cement and others. Mobinil's stellar performance of 660% in 1999 paved the way for other telecom listings on the Egyptian stock exchange. The stock is a market benchmark and is closely followed by international investors whom it rewarded with handsome gains of 134%, 71% and 56% in 2003, 2004 and 2005 respectively.

Chart 8: Mobinil Stock Performance vs. CASE



Source: CASE Website, Reuters

Telecom Egypt:

The Latest telecom listing in Egypt received a warm greeting by investors.

Telecom Egypt comes with a long proud history extending more than 150 years back as Egypt's fixed line incumbent. The company has undergone a privatization attempt in the year 2000, however adverse international and local market conditions led to the postponement of the transaction. Ever since, Egyptian as well as international investors eagerly awaited its floatation. The long awaited transaction took place in mid-December 2005 when Telecom Egypt made its debut on the Egyptian Stock market. Indeed it was a remarkable debut with the IPO oversubscribing more than 58 times and trading volumes exceeding EGP1 billion on the first day of trading, by far exceeding the average market trading value of EGP400 million. Investor hype drove the price to EGP30 per share during the first trading session, which is more than 100% in excess of the offering price. This IPO falls in line with the Egyptian government's drive for liberalization.

Table 1: Telecom Stocks as % of the Egyptian Stock Market

Stock Name	Trading Value Since Listing in EGP mn	Trading Turnover	Mkt Cap. in EGP mn	TE's Market Cap. as % of CASE	Performance Since Listing
Telecom Egypt	5,286	17.4%	32,640	7.2%	22.0%

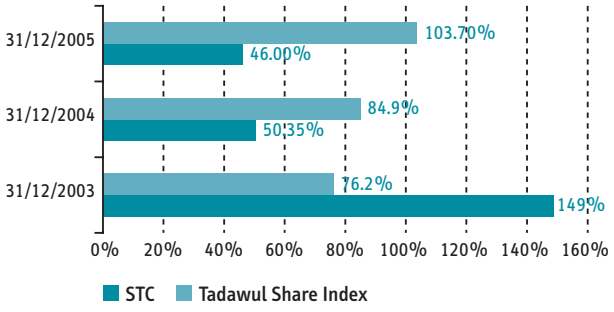
Source: CASE Website, Reuters

Saudi Arabia

Telcos share of total market cap in Saudi jumped from 0% in 2002 to 14% in 2005.

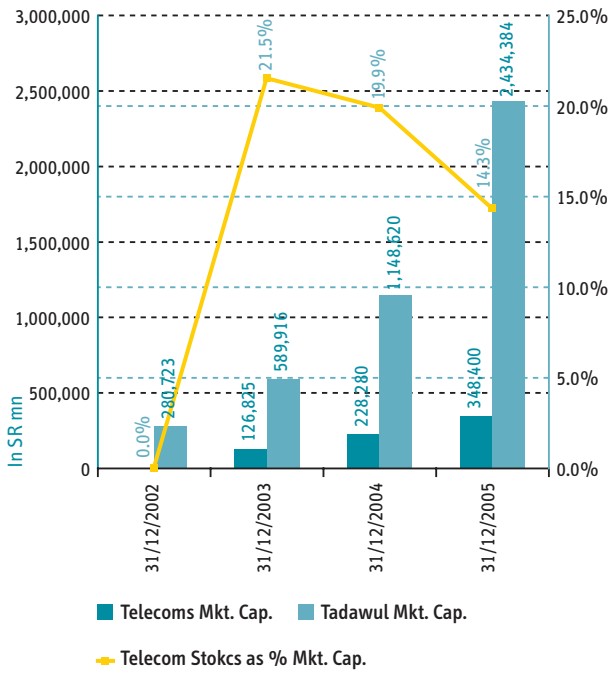
In 2002, the Saudi stock market listed its first telecom stock when the Saudi government floated 30% of its telecom incumbent in a landmark transaction worth SR15.6 billion (US$4.1 billion). The stock had a superb performance ending the year up by 150% and bringing its total market capitalization to SR126 billion – representing 22% of the total Saudi stock market. Saudi Telecom Company (STC) had the largest market capitalization in the GCC and kept the top spot till it was recently dethroned by another Saudi company, Saudi Arabian Basic Industries (SABIC). Q4 2004 saw the floatation of Saudi's second mobile operator Etihad Etisalat (Mobily), which paid over US$3.25 billion for the second GSM mobile license, and won one million subscribers in its first month of operation. Etihad Etisalat's high flying IPO increased the total market cap of telecom stocks to SR228 billion in 2004 and SR348 billion (US$92.7 billion) in 2005, representing some 14.3% of the total Saudi market. Etihad Etisalat is currently the third largest telecom company in the GCC in terms of market cap, behind Saudi Telecom and Etisalat.

Chart 9: STC Performance vs. Index



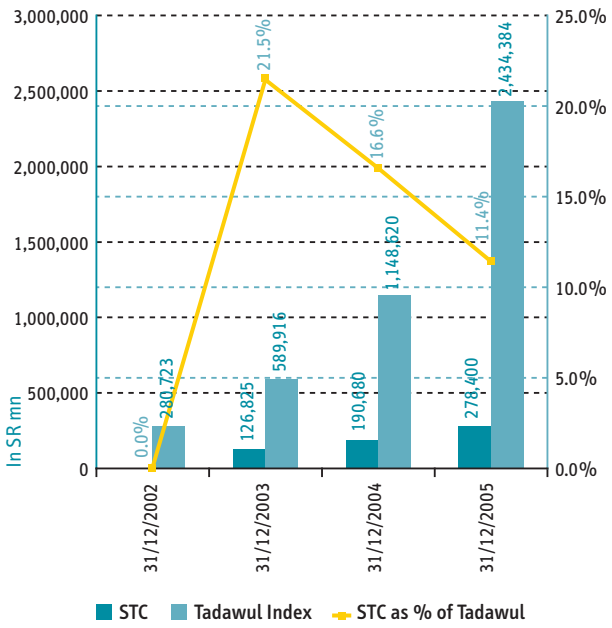
Source: Tadawul Website, Reuters

Chart 10: Telecom Stocks As % of the Saudi Stock Market



Source: Tadawul Website, Reuters

Chart 11: Listing of Saudi Telecom



Source: Tadawul Website, Reuters

Table 2: Etithad Etisalat Snapshot

Stock Name	Trading Value Since Listing in SR bn	Trading Turnover	Mkt Cap. in SR bn	Market Cap. as % of Tadawul Mkt Cap	2005 Performance
Etihad Etisalat	91	129.3%	70,000	2.9%	86.17%

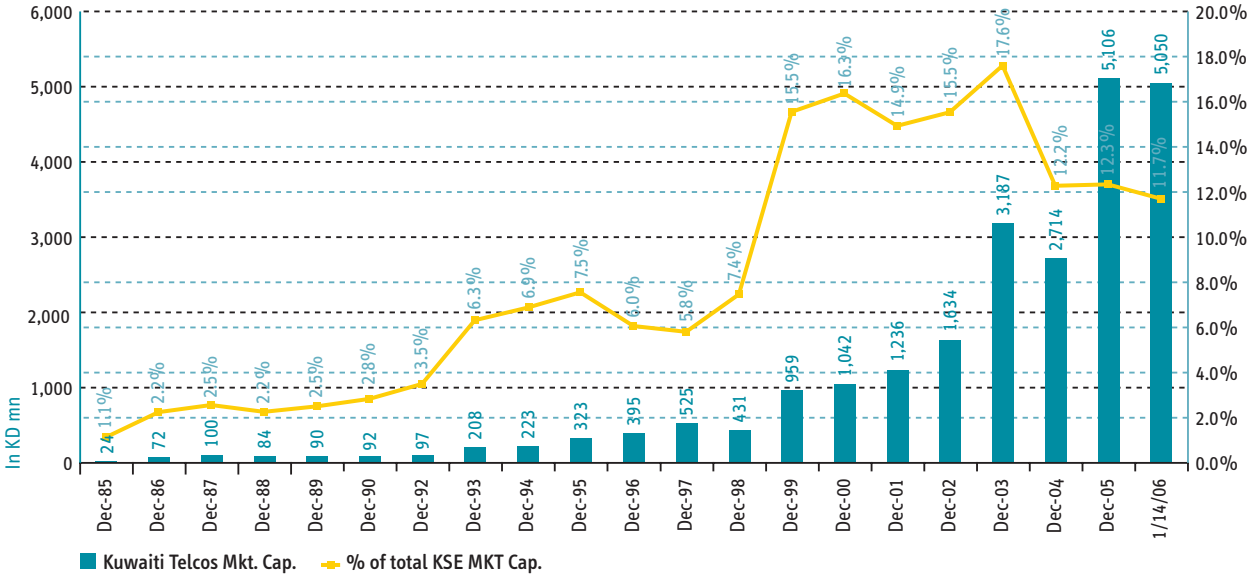
Source: Tadawul Website, Reuters

Kuwait

Telcos share of total market cap in Kuwait jumped from 1% in 1985 to over 12% in 2005.

Kuwait stands as a pioneer when it comes to offering telecom stocks to the public. MTC listed on the Kuwait Stock Exchange (KSE) in 1985 and ended the year with a market cap of KD24 million. MTC's market cap jumped from a mere 1% of the total market cap of the KSE in 1985 to approximately 9.5% by end of 2005. MTC is currently the fourth largest telecom company in the GCC in terms of market cap. In 1999, NMTC (more commonly known as Wataniya) listed as the country's second mobile operator and pushed the telecom market cap to KD797 million, representing 7.4% of the total market. By the end of 2005, the total market cap of Kuwaiti telecom stocks reached KD5.1 billion (US$17.4 billion), representing some 12.3% of the total KSE.

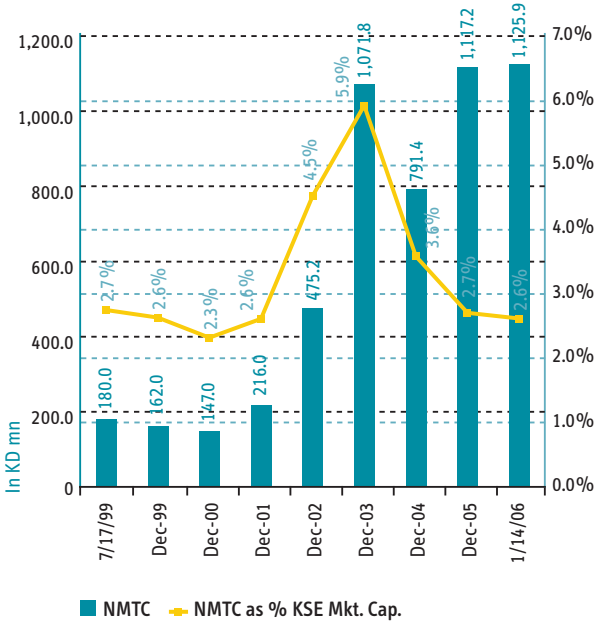
Chart 13: Telecom Stocks as % of the Kuwaiti Stock Market



Note: From 1985 till 1999 MTC was Kuwait's only listed telecom company

Source: KSE Website, Reuters

Chart 14: Listing of NMTC



Source: KSE Website, Reuters

Morocco

Maroc Telecom:

A Landmark IPO worth US$1 billion and 22 times over-subscribed.

Maroc Telecom got listed at the end of 2004 in a high profile transaction worth US$1 billion. Investors jumped on the deal which was oversubscribed by 22 times. The stock didn't disappoint investors who were rewarded with a 57% return since the IPO date. At the end of 2005, the stock reached a market cap of MAD87 billion (US$9.6 billion) and a trading value of MAD3.6 billion (US$396 million).

Table 3: Maroc Tel Snapshot

Stock Name	Trading Value in MD mn	Trading Turnover	Mkt Cap. in MD mn	2005 Performance
Maroc Tel	3,680	4.4%	87,909	15.34%

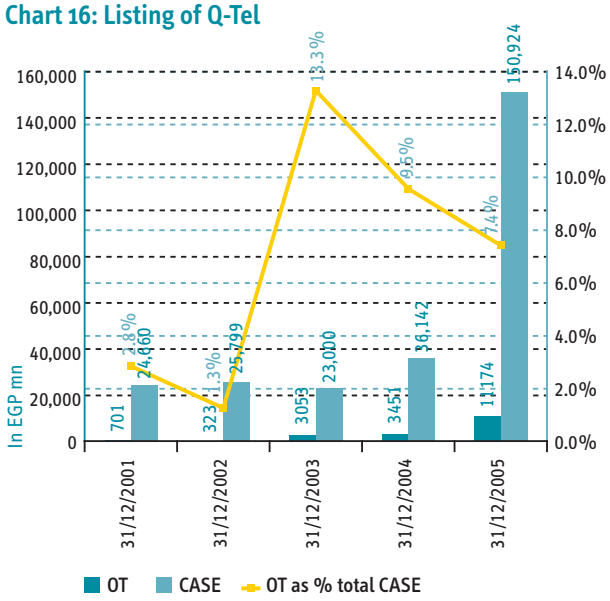
Qatar

Q-Tel:

Among the first telecom listings in the Arab World.

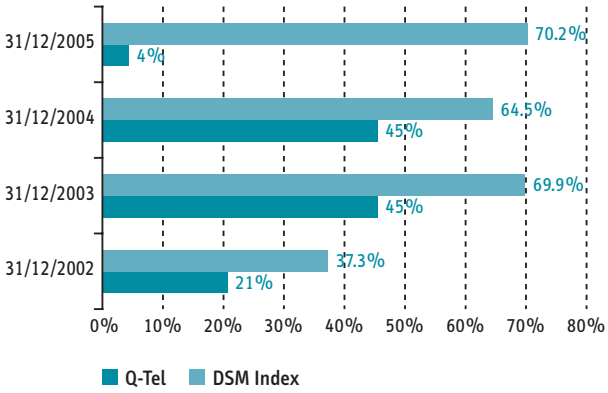
Q-Tel is Qatar's telecom incumbent and is currently the only player in the market. The company got listed in 1998 and is considered the benchmark for the Qatari market. Q-Tel's market cap more than tripled during the 2000-2005 period, from QR6 billion in 2000 to QR23.9 billion (US$6.5 billion) in 2005.

Chart 16: Listing of Q-Tel



Source: DSM Website, Reuters

Chart 17: Q-Tel Performance vs. Index



Source: DSM Website, Reuters

Oman

Omantel:

Omantel got listed in 2005 and soon claimed almost half of the market's trading value.

The listing of Omantel took place in 2005 and was opened only to Omani investors who rushed in to buy the stock of the country's fixed line and internet services monopoly. The IPO, which divested a 30% stake in the company, was oversubscribed by 240% and by the end of 2005 - only five months after its listing – the stock claimed 42.5% of total value traded on the Muscat Stock Market (MSM) and 25.7% of total market cap.

Table 4: Omantel Snapshot

Stock Name	Trading Value in USD	Trading Value as % of total MSM	Mkt Cap. in USD	Market Cap. as % of MSM Mkt. Cap.	2005 Performance
Omantel	248,677,467	42.5%	3, 258,754,500	25.7%	-28.5%

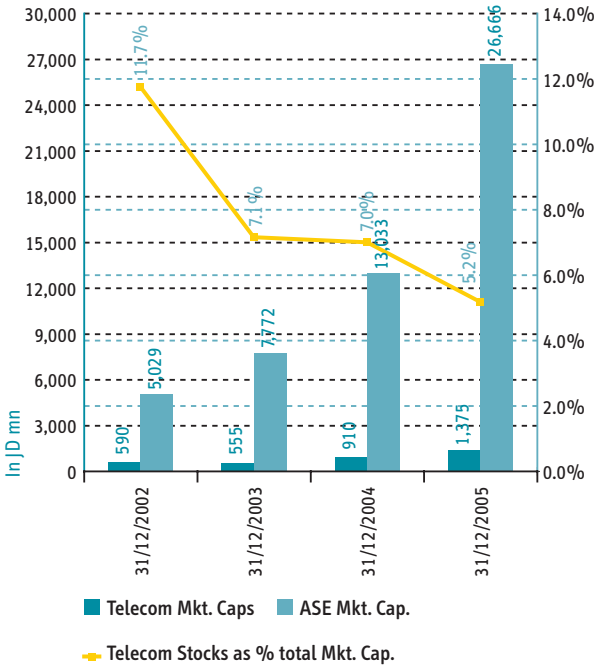
Jordan

Jordan Telecom:

Double market cap in three years.

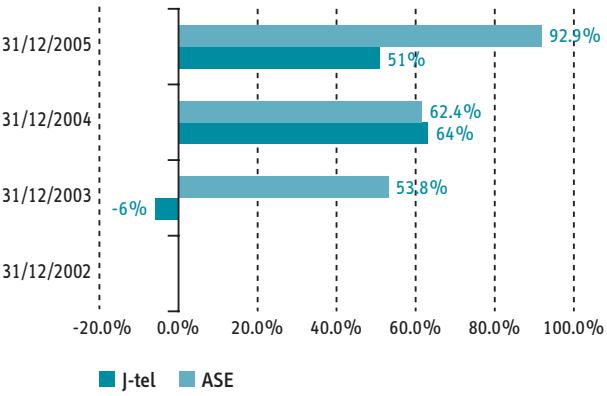
Jordan Telecom is the Kingdom's telecom incumbent offering both mobile and fixed line operations. The company got listed at the end of 2002 with a market cap of JD590 million, constituting 11.7% of the Jordanian total market capitalization. The stock more than doubled in value since its listing, reaching a market cap of JD1.3 billion (US$1.83 billion) at the end of 2005.

Chart 18: Jordan Telecom Listing



Source: ASE Website, Reuters

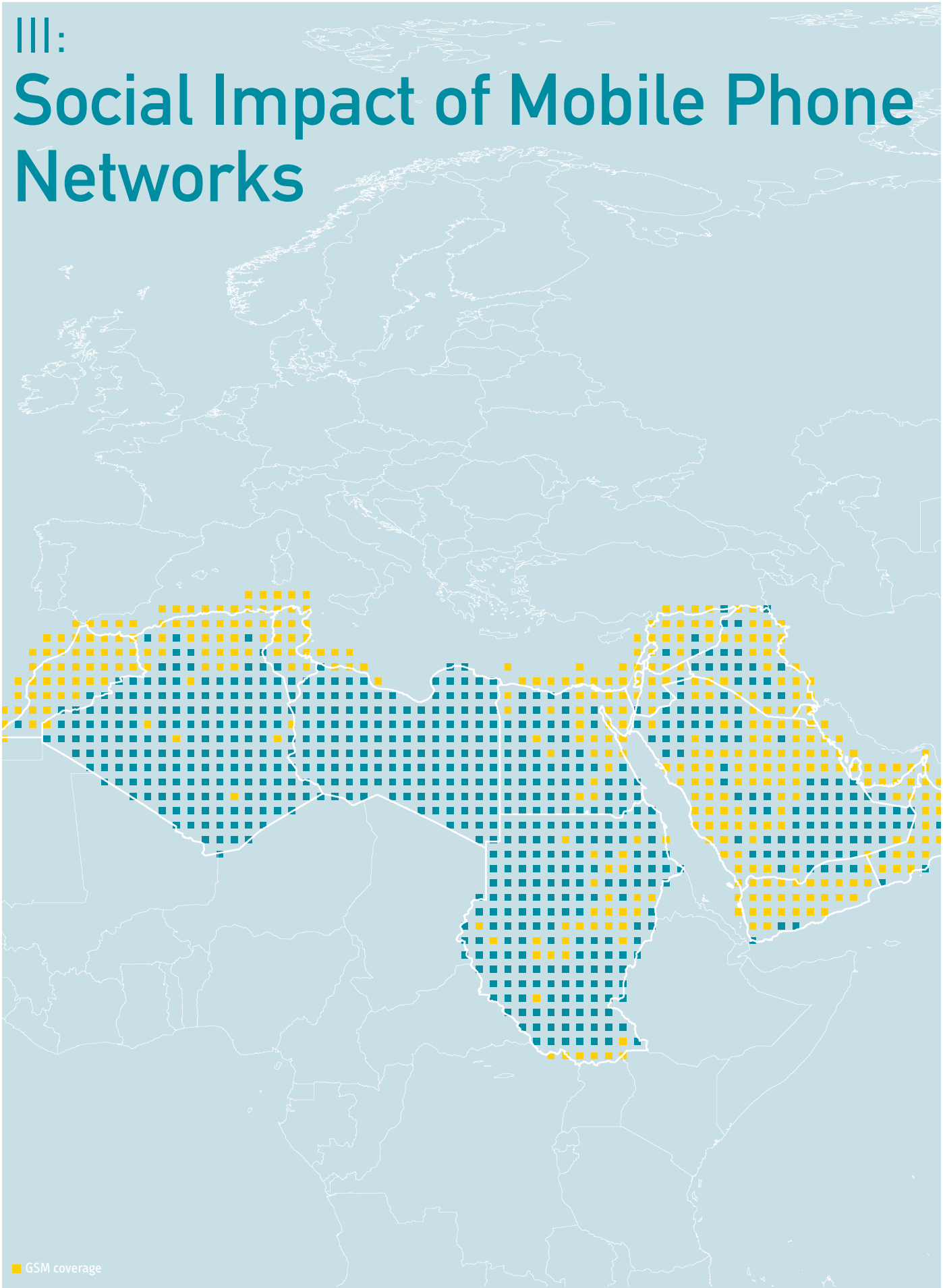
Chart 19: J-Tel's Performance vs. Index



Source: ASE Website, Reuters

III:

Social Impact of Mobile Phone Networks



Dr. Melhem Chaoul

Professor of Sociology
Lebanese University

Dialing Change

The mobile telephone has become one of the most striking technological phenomenons of our age. Researchers consider mobile telephone usage to be one of the three main indicators of the impact of globalization on any given society (the two others are internet usage and prevalence of satellite television receivers).

In 2003 and 2004, 500 million mobile telephones were sold throughout the world. Americans spend a total of 15 billion hours a year communicating by mobile telephone. The Chinese send 220 million text messages by mobile phone every year. Europeans send 113 billion.

Early on, Arab countries in the Middle East and Gulf regions adopted mobile telephone technology as a provider of an individualistic form of communication, and transformed it into an inescapable element of daily life. Back in 1992, there were already 42,000 mobile telephone lines in Saudi Arabia, and 15,000 in the United Arab Emirates. Introduced in Lebanon in 1994, mobile telephone lines had already multiplied to about 10,000 by 1995.

Local statistics indicate that in the United Arab Emirates the number of mobile telephones is greater than the number of inhabitants – a figure which reflects that a number of UAE inhabitants own more than one mobile phone line. In Lebanon, there are around a million mobile phone users – roughly a quarter of the population. Future-trend-identifying research in Saudi Arabia indicates that over the next five years the overall number of people using mobile phones will be one of the highest in the Arab World. It is expected that around 20 million – or nearly 80% – will be using a mobile phone in Saudi Arabia within five years. Egypt with its current 12 million subscribers will itself exceed 20 million shortly and will still have a huge potential for growth since the country boasts a large population of 75 million inhabitants.

The Impact of the Mobile Phone on Society

It must first be noted that the mobile telephone has become a fundamental pillar of modern-day individualism, a manifestation of individual freedom in the 21st Century.

Secondly, mobile telephones reinforce a system of society that is open and communicative, and act as an antidote to cloistered, closed societies. Mobile phones create a state of permanent communication; people are in constant contact. In fact, not only do mobile phones establish contact, they enrich the quality of that contact by offering a variety of services and effects which render interpersonal communication more broad and versatile. Mobile phones ameliorate image through voice and create a link to the Internet and electronic mail.

The enrichment and reinforcement of interpersonal communication establish, step by step, a new social structure, one that is no longer founded on a pyramidal form of relationships and decisions but on an arrangement of networks. A number of sociologists specializing in social organization have suggested that the mobile telephone-Internet link is creating a new society built around networks, and not based on pyramidal or vertical structures. Mobile telephones are thus playing a key role in the passage from a 'vertical society' to a 'horizontal society.' Specialists also note that the mobile phone ensures a link between the private and professional spheres. From the workplace or office, people can look after their families, just as they can oversee professional matters from home, or while away on a trip. It has also become evident that mobile phones allow their owners to better control their private and family lives. When you are more informed about the whereabouts and relations of the people who depend on you, your relationship with them becomes more relaxed and transparent.

The Impact of the Mobile Phone on Arab Society

It is not possible to appreciate the impact of the mobile telephone on Arab societies without reviewing the essential sociological characteristics of those societies. Arab societies are characterized by certain sociological behavior common to most of them and by some traits that are inherent to certain countries and regions.

The sociological characteristics common to most Arab societies, notably in the Arab Gulf and in the Middle East, are: strong, patriarch-centered family ties; the dominance of religion; and weak economic productivity. The consequences of these characteristics are: unequal rights for women, and their separation from men in daily life (in the Gulf); marriages arranged by families (in the Gulf, Syria, Lebanon and Jordan); family control over young people, and young people's dependence on their parents; a very strong religious influence on individual and collective behavior; and on the economic level we see the widespread existence of shareholder economies in the Gulf, and the maintenance of a sizeable rural sector in Syria, Jordan, Iraq, and even Lebanon.

It is obvious that these different societies do not all place equal value on their relationships with information technology, especially the mobile telephone. And even within each of these societies, the relationship with mobile phones varies according to gender, social class, and profession.

A study[1] conducted in Dubai and Riyadh concluded that the mobile telephone is the most commonly used leading-edge technology – ahead of the Internet and satellite television. The final report concluded that:

- There is no significant statistical impact on the age variable; i.e. mobile telephones are used by people across all age categories.
- There is no significant statistical impact on the marriage status variable; i.e. married people are just as likely to be using mobile phones as unmarried ones.
- There is no significant statistical impact on the education level variable; i.e. the semi-literate use mobile phones just as much as people who have completed school and even higher education.
- There is, however, a significant statistical impact on the gender variable; males use mobile telephones more than females; young men use them more than young women.
- There is also a significant statistical impact on the annual income variable; people with higher incomes tend to use mobile phones more than people with lower incomes.
- There is, as well, a significant statistical impact on the profession variable; lawyers (who use mobile telephones most) use them more than doctors, who use them more than engineers and pharmacists.

In Beirut, comparable factors indicate that:

- There is no significant statistical impact on the variables of age, marriage status, education level, or gender. In fact, in Beirut it appears that women use mobile telephones as much as men, if not slightly more.

Although all age groups use mobile telephones in Beirut, they use them in different ways. Young people aged between 17 and 35 maximize the utilization of their mobile telephones. They use all the different options that come with a mobile phone: camera; organizer; calculator; memos; Internet browsing; E-mail and so on. Older people – those aged 55 and above – on the other hand, use mobile telephones just to telephone. They continue to use classic agendas to organize in traditional written format their obligations and activities.

- There is a significant statistical impact on the variable of annual income and profession. The reason mobile telephone usage in Lebanon has peaked at around one million – around a quarter of the population – is because mobile telephone charges in Lebanon are the most expensive in the Middle East and among the most expensive in the world. Thus, unless there is a significant reduction in mobile telephone charges in Lebanon, annual income will remain an important influencing factor. As far as the professional variable is concerned, in Beirut doctors use mobile telephones most. Then come financial services professionals (such as stockbrokers), then engineers and public works contractors, and then lawyers.

Consequences of the Impact of the Mobile Telephone on Arab Society

We have three types of societies that deal with information and leading edge technology: very open societies; moderately open societies; and relatively closed societies. It must be noted as well that the degree of openness is also linked to the rhythm of adaptation to new technologies. To measure the degree of impact on Arab society, we can take three examples: Beirut, as an open society; Dubai, as a moderately open society; and Riyadh, as a relatively closed society.

In Beirut, mobile telephones are used primarily to conduct business and to establish a state of permanent communication in a society whose leading sector is the services sector. The mobile telephone is also a conveyor belt linking professional and family life, especially for working women who, in this manner, are able to oversee home life from their workplace or office. Young people also use mobile telephones to ensure safe and secure transportation with taxi companies trusted by their parents. In rural areas, far from the capital, mobile telephones help qualitatively ameliorate fundamental services which the state finds difficult to provide: for example urgent medical alerts, reliable transport and road safety, and information regarding specific issues. Finally, the Lebanese also use their mobile phones to provide leisure and entertainment. In addition to the games which have become classic entertainment on mobile phones, the sending of SMS messages has become widespread. And it is a predilection for this form of entertainment that unites young Lebanese with their counterparts in the Gulf and in other Arab countries. Although young Arabs can mingle freely with the opposite sex in Lebanon, they find it more difficult to meet their counterparts in other Arab countries, especially the opposite sex in the Gulf. So the Lebanese also use the mobile telephone to enlarge their sphere of relationships and human interchange, and to maintain relations in a virtual, rather, than face-to-face contact, way.

In Dubai, in addition to the general utility of mobile telephones, recognized in Lebanon and internationally, mobile telephone technology is playing a much more important social role in helping the emirate integrate into modernity and globalization. In a society which tends to attribute great importance to tribal and family structures, and to a value system essentially built around religious pillars, mobile telephone technology is helping open up society by, among other things, allowing people who are prevented by social mores from meeting face-to-face to nonetheless maintain a relationship. According to the afore-mentioned study, and questions posed to parents, 80.5% of parents questioned in Dubai allow their daughter to use a mobile telephone (89.5% allow their son to use one). The parents said they permit usage of the mo-

bile telephone for 'practical reasons.' Parents also added that mobile telephone technology allows them to remain informed about their sons' and/or daughters' activities and whereabouts – especially important in the event of an emergency. Only a minority of parents questioned said they used mobile telephones to remain abreast of who their sons and daughters were seeing (1.4% for sons and 5.1% for daughters). Young people questioned said they used their mobile telephones primarily to communicate "productively." The use of mobile telephones to send SMS messages, to access the Internet and e-mail, and to take and exchange photographs was, they said, of secondary importance.

Finally, although Riyadh is the most conservative society in our sample, it is not immune to the modernizing charms of mobile telephone technology. Even though the social characteristics of Arab societies are the most entrenched in Riyadh – especially when it comes to the systematic and intolerant application of religious rules – mobile telephone technology has without doubt helped weaken taboos anchored deeply in popular consciousness. In Riyadh, 49.4% of parents questioned said they allowed their daughter to use a mobile telephone (73.2% looked favorably on their sons' using mobile phones). Although the percentage of Riyadh parents who aren't opposed to their daughters' using a mobile phone may seem low when compared to the figures in Dubai, it is nonetheless a figure approaching 50% - something positive in a relatively conservative society. It must be stressed that in Saudi Arabia, the mobile telephone is the principal channel of communication with the outside world, since satellite television is not legally permitted and the Internet is highly controlled. Mobile telephones connect Saudis not only to the rest of their country, but also to the outside world, making available a variety of services still outlawed or heavily controlled in Saudi Arabia, for e.g.: the dissemination of information, global communication, and a multiplicity of references and ideas.

The situation is well-summarized by Saad Al Qahtani, public relations and marketing general manager of STC, who said: "We know that there will be a segment of the population which will misuse the new service, but the technology is there and we have to keep up. The only thing we can do is highlight the positive aspects of the technology."

In North Africa, especially in Morocco and Tunisia – where society is fairly open vis-à-vis Europe while maintaining traditional structures influenced by religion – researchers have noted a significant increase in mobile telephone use. Over the last five years, in fact, a government policy authorizing more than one mobile operator in the market has merged with an embrace by the public – notably young people – of mobile phone technology. In Morocco, for example, strong competition has been observed between different mobile operators offering a variety of services to young people, at ever lower prices. Just like their Lebanese, Syrian, Jordanian, UAE and Saudi counterparts, young Moroccans and Tunisians are in the habit of sending SMS messages – to such an extent, that they are the target of a constant stream of special offers.

Sources

[1] Al-Bushr, Badriyya: " The Impact of Globalization on Gulf Societies," Phd Dissertation, Lebanese University, 2005 (in Arabic)

Castells, Manuel: " The Rise of the Network Society," Blackwell Publishers, Oxford, 1996

Katz, James and Askhus, Mark: "Perpetual Contact," Cambridge University Press, 2002

Khonji, Tariq: "Nokia's MMS link to Saudi," *Gulf Daily News*, March 23, 2005

Lever, Rob, AFP: "Porn Industry Gears up for Mobile Phones, iPods," *Middle East Times*, Nov. 15, 2005

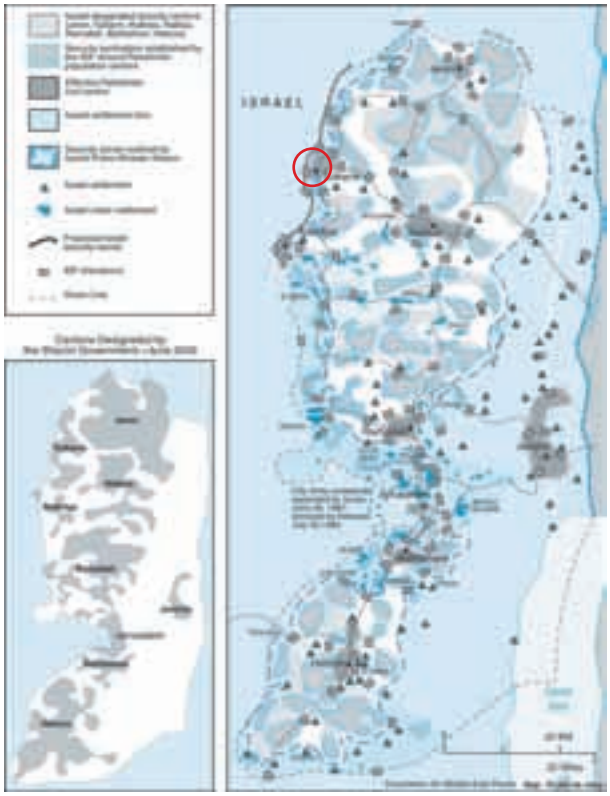
Schiller, Dan: "The Slaves Of Mobile phone" in The Arab translation of *Le Monde Diplomatique*, Feb. 2005. Exclusive for Mafhoum

Laura Ribeiro

Palestine Monitor

Additional research: Jennifer Marouf, Laura Ribeiro and Omran Risheq

Cracking the Wall: The Effect of Mobile Phones in Palestine



The West Bank after Oslo: Control and Separation - June 2002
The encircled area indicates the location of Nazlat' Issa

In Palestine, a region ravaged by political and economic fragmentation, the ability to communicate is perhaps more significant than in most developing countries. This is related to both social and economic realities of Palestine, especially since the construction of what Israel calls the Security Barrier and what Palestinians experience as the Separation Wall has placed new restraints on the free movement of Palestinians and split apart communities, friends, and families.

For people, who suddenly found themselves on the 'other' side of Israel's new borders, mobile phones often became the best and most practical tools in overcoming these barriers. However, even as it could help the Palestinian people bridge the physical barriers related to the Israeli occupation, the mobile phone industry faces 'invisible walls' that prevent it from achieving its full economic and social development capacity.

Mobile phones have proven invaluable for communication on a regional level as well as within Palestine. For the last decade, the growth of mobile networks was instrumental in helping families dispersed throughout the Middle East to keep in touch with each other. Palestinians in Israel, Lebanon, Syria, Jordan, West Bank and Gaza, rely heavily on mobile phones to communicate with family members inside areas they have no permission to enter – especially considering the relatively poor standards of fixed-line systems connecting the refugee areas.

Within the Palestinian territories, mobile phones have become an indispensable means for Palestinians to deal with the conditions imposed by the current Israeli occupation. On a day-to-day basis Palestinians face being arrested, delayed at checkpoints, forced indoors by curfews and isolated by power cuts, making mobile phones the only means of communication with one another.

The heightened importance of mobile communications after the Separation Wall can best be demonstrated by visiting the communities that were split apart by the Wall. This is the case for example in the West Bank town

of Nazlat' Issa where Palestinians rely on mobile phones to communicate with their relatives and loved ones after the town was split in two by the Separation Wall in 2004.

The Impact of the Wall and Mobile Phone Networks in Nazlat' Issa and Surrounding Villages

About a quarter of all Palestinians own a mobile phone and up to 40% have fixed line phones. In Nazlat' Issa, the construction of the Separation Wall has cut off almost a third of its population of about 6,500 from the West Bank and made Palestinian families dependent on mobile phones for keeping in touch with their loved ones.

In Nazlat' Issa, the Separation Wall was completed in 2003 under confiscation of 850 dunums of olive plantation, also demolishing 7 family homes and making around 50 people homeless in the process. The military gate between both parts of the town has been permanently closed, leaving the only physical access some 40km north of the town near Jenin. Those blocked-in on the West Bank side of the town have no legal right to enter Israel, so are denied the freedom to see their family members when they want.

The people of Nazlat' Issa and the nearby villages of Baqa Sharqiya and Baqa Gharbiya, historically intermarried among themselves and lived as one combined larger community. Before the first Intifada in 1987, people moved freely between one village area and another. Since then, the Israeli occupation has inhibited every-day movement between the places, but the families have continued to intermix as they always did. About 50 families of this community have been directly split-up by the Wall, affecting the lives of around 250 people, not to mention that the Wall also caused massive economic damage to the town and threatened the livelihood of numerous shopkeepers and restaurant owners on blocked-off commercial routes.

On December 21, Palestine Monitor visited the mayor of Nazlat' Issa and met with over 50 people who came from the town and surrounding villages to share their stories of how the Wall has affected their right to family life and explain what it is like to rely on mobile phones to communicate with their relatives. The three accounts below tell of families that found themselves torn apart by the Separation Wall. They are representative for the experiences of many people from Nazlat' Issa whose stories above everything else testify to the difficulties and emotional distress of the division forced upon them.

Arial view of Nazlat' Issa, showing how the Wall has split the town in two, first published in The Jerusalem Post, February 18, 2004

The Shehada family

Abel Halim Shehada, 43 years, comes from Nazlat' Issa and his wife, Khayria, 40 years, is from Baqa Gharbiya. They were married in 1983 and have 7 children. They are part of a large extended family that used to visit each other's parents, siblings, cousins and nephews three to four times a week – a journey that on average only took 10 minutes by foot.

Before they were married, Abel Halim and Khayria's family visited one another to agree on the marriage according to local tradition where family relations are close, and marriage is something between two families, not two individuals. A group of mothers, fathers and eldest siblings from each family would travel from Baqa Guarbiya to Nazlat' Issa and vice versa, while they discussed the wedding arrangements. After the wedding the two sides of the family maintained close contact and continued to visit each other frequently. This is simply not possible now that the Wall has separated the two places.

Abel Halim didn't take Israeli nationality because there was no big difference between those who did and those who didn't have Israeli ID before the Wall. Since the Wall, their eldest four children who don't have Israeli IDs and live in Nazlat' Issa, have been kept apart from their three younger siblings who can no longer visit them like they used to. Even their mother, Khayria, who used to have a room in both homes of the family and alternate between the two, was suddenly forced to choose between her children, opting to stay in Israel to be with the younger ones.

"We would travel freely between what's now Israel and West Bank. Our children were even born in both places, some have Israeli ID and some don't. The Wall has split my family in half," explained Abel Halim.

Even though his children are only 70 meters away, Abel Halim cannot see them freely. They keep in touch through their mobile phones on the Israeli Cellcom network. Abel Halim complains that this is very expensive for him as he is a farmer and has lost some of his land, but there is nothing he can do to bypass the expense. He has tried to speak to his children through the Wall but there are Israeli watchtowers and jeeps that patrol the area preventing them from coming too close for too long.

But the worst consequence of the Wall is for Abel Halim that the house he lives in is now empty.

"I feel sad when I pass their rooms and see their pictures on the walls. I even cry when I am alone. Sometimes I dream of jumping over the Wall to see them, but it's too high. My children may as well be overseas."

The Bawaatna family

Ahmad Bawaatna, 75 years, married Labiba, 60 years and brought up their family in Nazlat' Issa. In 1994, their son, Motaz, 34 years, married a girl from Baqa Guargylia and they have 4 children, the eldest being just 8 years old.

Like many families in the region, they were a closely-knit family who lived in the same building in Nazlat' Issa, with the grandparents, Ahmad and Labiba, helping to raise their grandchildren.

Before the Wall they would visit the mother's family regularly ever since the families had first met and the offer of marriage was accepted. In 2003, Motaz was forced to separate from his parents and relatives in Nazlat' Issa because he could no longer travel from one place to another and his children had Israeli IDs.

Since leaving his home town, Motaz, has had to give up the transport business which he owned and on top of having a lower-paid job, is forced to rent a house in Israel for $3,000 a year. Under this situation, the mobile phone became one most helpful tool that helped the family in alleviating the impact of having been split apart and Motaz bought mobile phones for his family and for his parents so they could keep in touch, although in ways that leave much to be desired.

Like many other families who are divided between the towns, the Bawaatnas use the Israeli network Cellcom, as the more affordable Palestinian company, Jawwal, does not have enough coverage in the area. This is because Israel has not given the PA permission to put up telecommunications towers in strategic locations in the region.

Due to their financial difficulties, the Bawaatna family relied on Motaz to call them, so whenever they wanted to speak to him they gave him a missed call and he would call them back. The major set-back to the missed call method is that Ahmad and Labiba are not free to call whenever they want. It is a one-way system of communication which denies one of the parties the independence to make use of the phone, defeating the very purpose of telephony.

"The phone is no way to talk to my brother, we have to go out on the balcony and shout on the phone because the network is bad, and there are things that you cannot say in public. There is no intimacy between us anymore." – Fadi, 25 years, the brother of Motaz Bawaatna.

The emotional burden caused by the family's forced separation goes beyond words for Ahmad and Labiba who are missing their grandchildren. While the mobile phone alleviates some of the hardships of being apart, no phone call can replace the life-forming experience of moments like birthdays and cultural celebrations which their grandchildren cannot share with them.

At first, when Ahmad called his son, he made mistakes in identifying who he was talking to as the voices are so faint because of the network and background noise from outside. His eyes started to well up as he spoke to his grandchildren who are literally meters away from him.

"I can't believe this is how it has turned out. We feel each other changing and growing apart and there is nothing we can do. Because of the Wall we can't any more connect in the way we always have done." – Labiba, 60 years, mother of Motaz Bawaatna.

The Younis family

Hind Younis, 38 years, from Baqa Gharbiya, married Majid, 37 years, from Nazlat' Issa, in 1990 and the couple today has 4 children. Majid and the children have Israeli ID but they all used to live in Nazlat' Issaa where they both worked – Hind as a teacher and Majid as a construction worker.

In 2003, Majid and the children moved to the part of the town that is on Israel's side of the barrier so they could continue to attend their usual school while his wife had to stay on the "other side" of the Wall. Last year Majid's father, who is in his mid 70s, suffered a heart attack and was hospitalized. Hind was unable to be by his side and comfort her husband and father-in-law. She called them frequently but it was not same as keeping them company in hospital and being able to get things for her father-in-law.

When Hind was telling her story, the last time that she and the entire family had met was after Ramadan (Eid ul-Fitr), several weeks earlier. Hind had made the arduous journey through the northern checkpoint at Qalqylia, after being refused at the closer crossing point near Jenin – despite showing her marriage certificate to the Israeli soldiers. That day she left the house at 2 pm and arrived at her father-in-laws at 11 pm, taking a total of 9 hours for something that used to be a 5 minute car drive away.

On ordinary days, the Younis family remain connected through Cellcom which is unfortunately, a very expensive way for them to keep in touch. They are too poor to afford a postpaid account and pay-as-you-go is more costly and doesn't provide a discount for 'favorite numbers'. They also can't afford computers and internet access so mobile phones really are the only way for them to keep in touch.

"Speaking on the phone is not like really speaking, but we will not let the Wall break our relationships" Hind, 38 years, on keeping in touch with her children and husband Majid Younis.

The social importance of mobile phones for the population of Palestine cannot be overestimated as a method for maintaining the ties among families that have no other means of daily communication as well as a way for preserving Palestinian culture and integrity on a larger scope. But while mobile communication is a benefit that helps in bridging the distances caused by the fragmentation of the Palestinian Territories in general and by the Separation Wall in particular, the longer-term importance of highly developed mobile telephony for Palestinian life and economy is another huge issue.

In this regard, the Palestinian Telecommunications Company (Paltel) and its network subsidiaries made great progress in building the territories' communications infrastructure over the past few years. However, as Paltel and its mobile phone subsidiary, Jawwal, have been making strides to equip Palestine with the means for advanced communication, these efforts have been hindered by obstacles caused directly by the Palestinian Authority's lack of full sovereignty.

Electronic interference, unfair commercial advantages of Israel-based providers, hindrances in imports of network elements and consumer handsets, and Israeli prerogatives under the Oslo Accord manifested as severe impediments to normal development of a competitive mobile phone sector in the Palestinian Territories. In numerous ways – such as insufficient frequency allocations and alleged deliberate interference with Jawwal's mobile traffic by stronger competitors on the Israeli side – these impediments have resulted in an invisible but massive separation barrier of its own: a virtual wall that stands in the way of communication in Palestine and obstructs economic and technological development of the mobile sector, with all implied consequences for slowing the country's overall economic growth.

The Political and Commercial Context of the Mobile Phones Industry in Palestine

In Palestine, the body responsible for maintaining and developing the telecommunications systems is the Palestinian Authority (PA) which has legal control over the Palestinian territories – as defined by border agreements in 1967. However, the extent and significance of this control is limited as it is predetermined by political agreements that define the perimeters of power for the PA.

The borders are entirely controlled by Israel making the import of mobile handsets and supporting equipment, such as chargers, SIM cards, earphones and phone covers, susceptible to Israeli customs law and policy. All imports to Palestine come under the Israeli customs envelop and must comply with Israeli technical and consumer standards.

In September 2005, the unilateral disengagement from Gaza has given Palestinians control of the border crossing in Rafah, but this is a passage for people only. All goods go through the Kami crossing and are subject to approval from Israeli customs officials once PA officers have carried out the standard checks.

In addition to customs standards, Palestinian imports are subject to security checks in accordance with the provision in the 1993 Paris Protocol. In practice, this means that many mobile phone handsets and accessories are held at port for indefinite lengths of time making their market appeal obsolete by the time they are available in the shops. This is a major concern for Palestinian importers of mobile handsets as technological advancements happen very quickly and competition for market leadership in the latest fashionable trends is furious. Paltel and its mobile phone subsidiary, Jawwal, protest that

their imports are frequently held at borders for periods of 3 -12 months, giving their Israeli competitors a clear head-start.

The current situation

On arrival in Palestine, one is immediately given the choices of buying a SIM card or contact from Jawwal, Orange, Cellcom, Pelephone or MIRSE operators. What an unsuspecting person would not realize is that Jawwal is the only licensed network operator in the area, making all other companies illegal and immune from taxes, fiscal inspection and consumer protection laws within Palestine.

Immediately after the establishment of the PA post-Oslo Accords, an emergency plan was prepared to expand and improve the primitive sector inherited from the Israelis. The refurbishment and expansion of the communications infrastructure was a big part of the development agenda, as the telecoms sector had to overcome a severe backlog of technology and network implementation from the days of direct Israeli control over the sector.

While the mobile communications infrastructure was improved greatly through the work of Paltel and Jawwal, the biggest problem today is that past agreements such as the Oslo Accord set an inadequate framework for the future development of the industry – from the points of view of both the global mobile industry and the consumer market in Palestine, whose growth surpassed expectation.

The most important limitations under the Oslo Accords are the regulations of Article 36 of the Interim Agreement on Telecommunications. The Palestinians were given a single slot of 4MHz frequency on the GSM 900 band. This was relatively adequate for servicing the 80,000 subscribers at the time, as negotiators did not expect mobile demand to go beyond the 100,000 mark. However, in the past decade, the list of subscribers to Jawwal alone exceeds 600,000 and the current frequency is utterly insufficient for Palestine's growing needs.

Other major difficulties are that Oslo split the Palestinian territories into three sections; areas A, B and C. Area C is exclusively under Israeli control and prohibits the installation of Palestinian-run infrastructure in key access areas for the telecoms industry. The spill-over of Israeli networks into Palestinian territory through the use of area C and Israeli settlement blocks inside the West bank, further obstructs the growth of the Palestinian industry; it often interferes with Jawwal's network and allows Israeli companies to illicitly penetrate the Palestinian market.

Although Israeli companies such as Orange, Cellcom and MIRSE can be picked-up in Palestinian-run areas, they are entirely illegal and do not pay license fees to the PA nor contribute any form of taxes or tributes. As the Palestinian operators make such payments, this completely undermines any principle of fair competition and equal opportunities. Israeli illegal competition also serves as a major deterrent to foreign investors in this sector.

The Israeli-Palestinian Interim Agreement on the West Bank and Gaza Strip
Annex III: Protocol Concerning Civil Affairs
ARTICLE 36: Telecommunications (selected sections)

A - General

2. a. In Area C, although powers and responsibilities are transferred to the Palestinian side, any digging or building regarding telecommunications and any installation of telecommunication equipment, will be subject to prior confirmation of the Israeli side, through the [Joint Civil Affairs Coordination and Cooperation Committee] CAC.

2. b. Notwithstanding paragraph a. above, the supply of telecommunications services in Area C to the Settlements and military locations, and the activities regarding the supply of such services, shall be under the powers and responsibilities of the Israeli side.

B - Principles

3. The Palestinian side has the right to establish its own telecommunications policies, systems and infrastructures.

The Palestinian side also has the right to choose any and all kinds of communication systems (including broadcasting systems) and technologies, suitable for its future in, inter alia, basic and value added services (including cellular telephony).

6. A joint committee of technical experts representing both sides shall be established to address any issue arising out of this section including the growing future needs of the Palestinian side (hereinafter referred to as "the Joint Technical Committee" or "JTC"). The JTC shall meet on a regular basis for the purpose of solving all relevant problems, and as necessary in order to solve urgent problems.

C - The Electromagnetic Sphere

2. Future needs for frequencies shall be agreed upon by the two sides. To that end, the Palestinian side shall present its requirements through the JTC which must fulfill these requirements within a period not exceeding one month.

D - Telecommunications

3. a. The Palestinian side shall enable the supply of telecommunications services to the Settlements and the military installations by Bezeq [the Israel Telecommunications Corp. Ltd.] as well as the maintenance by Bezeq of the telecommunications infrastructure serving them and the infrastructure crossing the areas under the territorial jurisdiction of the Palestinian side.

5. a. The Palestinian side has the right to collect revenue for all internal and international telecommunication services originating and terminating in the West Bank and the Gaza Strip (except Settlements and military locations).

Jawwal and the Palestinian mobile phones industry

Jawwal is the only mobile phone company that legally operates in Palestine. It employs about 800 people directly, and provides the livelihoods for additional hundreds of subcontractors and intermediaries. According to a statement by Paltel CEO Abdul Malik Jaber from the end of 2005, both Jawwal and Paltel have been prospering. For 2004, Paltel reported total assets of $337 million and profits of $55 million.

Jaber said that Paltel's profits in 2005 amounted to $100 million, a near 100% improvement over the previous year. Network growth plans are to more than double the Jawwal subscriber base to 1.5 million customers. However, Jawwal today is still considerably smaller than the smallest Israeli mobile phone company, MIRSE.

The occupation has shaped and limited the way the company operates and grows. There is no geographical continuity between the regions and it services, forcing Jawwal to duplicate its headquarters in both the West Bank and Gaza. To be able to provide quality service to its Gaza customers, the Jawwal headquarters in Gaza has its own CEO, IT, engineering and marketing departments who literally reproduce the structure and work of the one in Ramallah. Many members of staff from each branch have never met one another and can only converse through video conferencing. This is clearly neither economically efficient nor administratively cohesive or good for information sharing.

Restrictions on its ability to streamline and adopt a competitive management structure are not the only problems facing Jawwal. Its core equipment, switches and towers are subject to long delays at the border and are limited in where they can be installed without Israeli permission. The PA can only authorize transmission towers inside area A; area B needs Israeli permission, and area C is, in practice, out of bounds completely.

Besides facing frequent delays in the import of handsets, Jawwal also encountered many instances where Israeli competitors 'dumped' their products on the Palestinian market; the most common time for this is during local holidays. When Palestinians will want to speak to their extended family, Israeli SIM cards have been known to cost as little as 1/4 of their normal price.

While the Palestinian mobile industry does not object to competitive prices, the problem for Jawwal is that Israeli providers have an unfair advantage in the market because they are not subject to the same operating conditions and pay no VAT, income tax or license fee.

Jawwal's parent company, Paltel, contributes 17% VAT plus 7% of gross revenue and regular income taxes to the PA, as well as license fees. This amounts to about $25 million per month. The conditions for competition are clearly unfair, and Paltel demand the PA defend its own interests and cracks down on illegal operators.

"Our corporate customers say to us 'Look, Cellcom gave our competitor a better deal and we need the same.' We're under immense pressure to compete but on uneven ground." – Ruba Izz, Sales and Marketing Officer at Jawwal Head Office, Ramallah.

As Jawwal only is allowed to operate in a 4MHz frequency on the 900 band, it is also deprived of bandwidth which it urgently needs for further network and services development. The PA has continuously requested the Israelis open up more frequencies in this same spectrum – the 900 band is good for wide area coverage. Israel has suggested it may offer frequencies in the 1800 band, which is useful for density coverage in highly populated areas.

In spite of the problems brought by the Israeli occupation, Paltel is in fact a very effective regional competitor. Between 2001 and 2005, its compounded revenue was the third highest in the Middle East. Its average call rates per hour stand at only $ 0.20, and Paltel's calls are all priced as local calls.

Since 2005, the company has floated in the Abu-Dhabi stock exchange and established a presence in other regional markets.

In light of their success in becoming a viable commercial telecommunications company, Paltel say they would greatly benefit from new competition and foreign investment. Since their right to exclusivity in the Palestinian market expired in 2005 (according to the Oslo Accords), the PA will open up the market and actively encourage competition. At the moment, Israeli approval stands in the way of making this a reality as at the very least, the Palestinians need more frequency, timely movement of goods and to be able to install transmission towers anywhere within their territory.

The Paltel Group:

Paltel (landlines and fixed telecoms services), **Jawwal** (mobile networks and phones), **Palmedia** (fiber optics and advertising) and **Harada** (data and internet services).

The **Paltel** group spends $2 million a year on social development projects as part of its Corporate Social Responsibility (CSR). Its major focus is education. It has helped students to overcome the checkpoints that often prevent them from making it to exams and classes on time. **Paltel** have introduced **e-learning** facilities connecting universities to one another and allowing students to submit their homework and exams through internet.

Paltel has also created a **mobile internet bus** servicing community needs in refugee camps. In the mornings the bus turns into a teaching room where students learn invaluable computer skills, and in the evening it provides free access to the internet through wireless services.

As one off donations, the group has installed **161 schools with DSL**, equipped **20 schools with PCs**, set up a **$10 million fund** to pay for tuition fees for Palestinian students, and put forward the seed money for a **Microlending Bank** to serve those without access to commercial loans, especially women.

What the future may hold

The Palestinian telecommunications sector has overcome remarkable difficulties in the last ten years. The PA generated vital revenue though rent creation and the granting of a temporary exclusive license to Paltel – a somewhat

justifiable move considering the primitive state the sector was in at the time it was handed over to Palestinian control, and that telecommunications are by enlarge a public utility that needs a lot of capital upfront and has a large economy of scale. Paltel duly operated and developed the telecommunications sector, especially its cellular networks.

At present, Paltel is a successful commercial company and a serious regional player. The question for the future is how it can secure this position and encourage more investment.

If such investments are realized, the improved telecommunications infrastructure would also open new economic opportunities for Palestinians. One example for a possible way forward is to build outsourcing facilities. Palestine has plenty of well-educated people with excellent English language skills, who would provide a strong workforce for call centers. A strong communications-based services industry in Palestine also would be able to offer employment opportunities that are immune to border control problems and could not justifiably restricted under the Israeli 'security argument'.

The minimum precondition for full realization of the Palestinian telecommunications potential is the faithful implementation of the Oslo Accords so the Palestinians can properly allocate their resources and promote one of their most successful sectors. This way, the telecommunications business can help to overcome both the visible, and invisible, Wall that keeps Palestine politically and economically imprisoned.

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Arab Television and Mobile Phone: True Interaction

A few years ago, it would have been inconceivable to think that religious authorities in Saudi Arabia would be capable of inflicting financial strain on revenues generated by a television show filmed in Lebanon. Also hard to fathom would be a ban against using cellular phones to engage in 'morally reprehensible' behavior. And who would have ever thought that perhaps the broadest election in the Arab world would revolve around a pop star? Welcome to the world of interactive TV and the myriad social-economic shock waves it is sending throughout the Middle East.

Today, in households from Rabat to Riyadh, it only takes a few minutes of channel surfing to realize that telecom, specifically SMS text messaging, has become the lifeblood for much of Arab television. The last couple of years have witnessed a dramatic decline in the space allotted to actual programming as streaming feeds of SMS messages increasingly encroach upon the real estate space of the screen. However, beyond the obvious economic benefits of convergence, now seen in Europe and other parts of the world, the ramifications of interactive TV on the Middle East market extend far beyond money. Together with a fresh wave of broadcasting outlets and programs, SMS messaging has opened up a new channel of communication for young people across the Arab world; an unprecedented forum that has spawned new languages and contributed heavily to shaking the foundations of conservative upbringing – a cultural pillar for centuries across the region – to its core.

The Star Academy Saga

The powerful marriage of SMS and television has generated a flurry of headlines in its short existence. Some press reports have even tied the technological phenomenon into political intrigue and conspiracy theories. Much of the controversy has centered around Star Academy arguably the most popular show in the Arab world. Although a borrowed reality-TV format, franchised from Dutch production house Endemol, the show has undoubtedly revolutionized the Arab television industry. Not only did it generate record revenues by raising the bar for prime time advertising rates, the show ushered in a new era of interactive television, which would leave an irreversible mark on the region's entertainment and production industry.

At the core of the program is audience participation, achieved through SMS text messaging. Each week viewers across the Middle East scramble to vote for their favorite contestants choosing among 19 finalists selected from various Arab countries to live together in a house/studio while training to become the region's next pop sensation. The would-be election process culminates on Fridays, when at the end of a weekly singing showcase or "prime" the least popular (in terms of SMS ballots) of three candidates – put forward by a panel of judges – is effectively voted off the show. But the SMS interactive component, essentially the engine of the program, extends much further than a simple vote. Eager fans can track the movements of their favorite candidates even as

the contestants sleep, all week long, on a 24 hour per day specially devoted satellite channel. An array of remotely operated cameras mounted throughout the home allow viewers to follow nearly every movement as the young hopefuls eat, cook, sing, attend dance and drama lessons, even argue or share relatively intimate moments with one another. And all the while, as the young starlets sit on couches playing guitar, singing love songs, staring into one another's eyes; as male and females from both highly conservative and relatively liberal countries hug and kiss (on the cheeks of course), young people across the region are also interacting simultaneously in ways never before imaginable, via a seemingly endless stream of text messaging flowing across the bottom of the screen.

TV Chatting: A Socio-cultural Phenomenon

Just as Star Academy brought young artists together from the far-flung reaches of the Arab world, the show's integral SMS component is now connecting young Arab audiences to their otherwise disparate regional counterparts. And the topics of discussion are beginning to raise eyebrows.

Much of the correspondence, reduced to five to ten word exclamatory outbursts, is purely focused on voicing support for the various contestants and their countries of origin. Yet a sizable chunk of the scrolling chatter has almost nothing to do with the show or its self-absorbed contestants. In fact, reality TV may have helped kick off the trend, but streaming SMS feeds are now the hallmark of all Arab music video channels, while game shows, talk shows and other programs are increasingly catching on to the interactive trend. Indeed a channel's mobile chat forum is increasingly taking on a life of its own, possibly surpassing viewer interest in the programming itself.

Although there is precious little sociological research on the subject, the appeal of SMS forums is increasingly being linked to frustrations over family imposed restrictions and social taboos. Saudi Arabian youth are among the most avid customers of SMS television services; however Saudi culture forbids dating, communicating or any mixing of any kind between the sexes, outside the realm of family and marriage. Realizing that viewers may be more interested in meeting one another than watching programs, TV stations have employed entire teams to remove phone numbers and e-mail addresses from messages before they are broadcast on screen. But despite the sophisticated filtering techniques, the forum remains a tool to meet and communicate with the opposite sex.

Messages are often complimentary, if not overtly flirtatious. "I love you" and Arabic terms of endearment such as "Habibi" are ubiquitous on both the music and reality TV channels. Onscreen features increasingly include applications such as the "persona meter" which purports to match male and female chatters (at a fee of course) based on birth dates and first names. Horoscope options have also been added, further contributing to the Westernized tone and relationship oriented aspect of the chat forum.

An executive from Rotana, an industry giant which owns four music video channels, admits that SMS users are becoming increasingly cunning in coding their messages, even using poetry to disguise numbers that would be edited out by censors.[1] Messages are also subject to being censored if they contain profanities, references to politics or insults, particularly to a station, its content or backers. Although minders have a substantial impact, the SMS forum continues to challenge existing values and create new ones.

The chat area has taken up three quarters of the TV screen

By providing a common space for voices from markedly different cultures, the TV chat rooms combine a vast array of dialects infused with strong French and English influences. Messages often feature a complex mix of Arabic and Western scripts and transliterations. Just as the North African participants in Star Academy can be seen teaching French to contestants from the Arab Gulf; audiences across the region are also exposed to multi-cultural influences; reinforced by conversations posted by fellow viewers.

The Conservative Backlash

Predictably, Star Academy's formula for cohabitation between sexes set off a fury of reactions in a region where pre-marital sex and dating is frowned upon if not strictly forbidden, especially in the Arab Gulf countries. Religious authorities were quick to condemn Star Academy, while Big Brother, another hit reality TV show format being filmed in Bahrain, was swiftly canceled after local protests to its similarly contrived cohabitation environment. Somehow Star Academy has managed to survive to its third season despite a series of potentially serious setbacks. Aside from negative reviews from Islamic authorities, who issued fatwas, or religious edicts against the show, Star Academy lost a multi-million dollar sponsorship deal with Nescafe during its second season. Even Nestle, a multinational Switzerland-based brand, grew worried over the prospect of "boys and girls living together in the same house," clearly sensing a backlash among its prized Saudi consumer base.[2]

Star Academy was then dealt a seemingly crippling blow. It was cut off from one its largest audience segments when Saudi telecom authorities banned their 10 million plus subscribers from interacting with the program, saying the show did not "match the values of Saudi culture."[3] Oddly enough, despite the ban on voting from the Kingdom, last season's winner was Saudi national, Hisham Abdul Rahman, proving that voters in the Kingdom found ways to get around corporate-imposed social barriers, mainly by using websites that offer SMS messaging services.[4]

The incident may have also proved Saudi Arabia's inability to isolate itself from cultural imports. The Kingdom demonstrated that it was still capable of flexing its muscles over the country's telecom network, but was clearly much less adept at blocking the show's satellite signal or links to a multitude of websites.

To the chagrin of religious authorities, when Abdul Rahman, arrived in Riyadh, he was met by crowds of youth at a local mall. Believing they could somehow stem pop hysteria in the Kingdom, religious police reportedly banished the eager 24 year old to his home town in Jeddah.

It is unclear how the two new 21 year old male Saudi contestants will fare in the third season of the show. Soon after the broadcast began, Saudi telecom authorities again banned their subscribers from participating.

Bridging the Gap or Reinforcing the Divide?

Both female and male contestants of Star Academy pose for a group photo

Proponents of Star Academy, and its rival show Superstar, would claim that the interactive programs are bringing the Arab world together in unprecedented ways by disseminating cultural tendencies and dialects, both through the participants, and their respective SMS user constituencies. However, industry experts clearly believe that much of the voting takes place along patriotic lines, in some ways reinforcing political boundaries and nationalist sentiment.

The final vote in the first edition of the Superstar series, which is based on the American Idol format, was marred by transnational tensions when the Lebanese candidate was beat by a Jordanian. A public outcry followed, including reports of rioting outside the studio, as audience members cried foul play amid reports that Jordan's King Abdallah encouraged his compatriots to vote while footing the bill for the calls. Then, during the second season of the show, politics again entered the fray as reports emerged alleging that Libyan leader, Col. Muammar el-Qaddafi was offering free telephone calls and investing millions to support his country's candidate over the Palestinian frontrunner.[5]

Whether there is any validity to the reports or if they too stem from nationalist fervor, critics charge that the two shows' claim to a quasi-democratic voting process is fundamentally flawed. Since interest from home audiences is a critical factor in the election process, so too is consumer purchasing power, national population numbers as well SMS tariffs and the related status of telecom markets, which vary widely throughout the region. Saudi SMS voters, for example, may have an advantage over their Lebanese counterparts, benefiting from markedly higher per capita incomes and increased disposable income levels. Lebanese voters on the other hand, are disadvantaged by a non-competitive government-owned telecom network, which boasts some of the highest tariff rates in the world, let alone the region.

An argument can also be made over the disparities produced by the wide variance in population numbers, with Egypt's population of 73 million, and subsequent SMS constituency far outpacing Lebanon's estimated 3.5 million.

The interactive television phenomenon has also served to exacerbate social and political divisions within nations. Palestinian factions, for example, were divided over the participation of a local candidate in the Superstar series, which happened to coincide with a hunger strike by Palestinians held in Israeli prisons. A war of words erupted over the spending of government funds when the Palestinian Authority's Culture Ministry sponsored a large screen viewing area to cheer on the native son Ammar Hassan. While the late President Yasser Arafat offered messages of support to then 26 year old, the militant Hamas movement sharply criticized the PA, arguing that resources should be spent to support prisoners "instead of the Super Star program that contradicts Islamic values."[6]

The SMS Invasion

Whatever the socio-cultural or political ramifications, the SMS interactive television format has proven to be a dominating market force with little signs of slowing. In a few short years, mobile-related revenues have reshaped the Middle East television industry like few others.

Unlike the slow pace of budding ventures in North America and other regions, SMS scrolling bars are ubiquitous across the Arab TV landscape, ever-present on virtually every music video channel and an increasing share of talk shows, game shows and various other entertainment programming. Although reality shows like Star Academy helped peak viewer interest in both the text-based technology and the concept of interactive programming, SMS is now the mainstay of a completely different content market, proving again perhaps the triumph of the chat forum over the stations and their shows.

SMS-related revenues make up to 70% or more of revenues for a number of music and/or gaming channels. The last two years have witnessed a dramatic increase in the SMS space, with some channels featuring up to 8 horizontal and vertical information bars. In addition to the posting of Arabic, English and French messages, mobile companies from across the region and their respective hotline numbers are listed on screen (and subsequently advertised) in a bid to lure viewers into playing interactive games or purchasing content delivered by mobile technology, such as ring tones.

The interactive format is also a boon to merchandising industries and links to websites and their array of web-based revenue generating applications. It is no secret that the SMS components have been an integral factor in the explosion of music video channels over regional airwaves and their financial viability. Today music channels are among the highest growth segments in Arab programming, increasing at a rate of some 60% in 2005.[7]

The reason behind stations' apparent addiction to SMS services is clearly linked to the fragmented state of the region's television advertising industry coupled with gross levels of saturation in the overall market. The liberalization of the Middle East broadcasting industry over the last decade has spawned around 200 free satellite television channels and around 100 pay-TV channels. The sector's advertising segment meanwhile remains valued in the hundreds of millions of dollars, and subsequently far too little to sustain the bloated industry.

However, music video channels that are sustained with low production costs, due to a reliance on library material instead of original content, can be managed for as little as $5 million annually[8], with much of the cost covered by telecom related services.

With a strong financial incentive, major broadcasters across the region, many of whom remain in the red, are increasingly fielding studies looking at making their content and broadcasts compatible with SMS technology. With double digit growth rates in the TV industry expected to continue through to 2015[9] the future does indeed seem bright for interactive programming components. The SMS television chat room appears to have secured a solid source of financial insurance, making its existence and the socio-cultural trends it has inspired an unstoppable trend that is likely to continue to influence today's youth, and in some form or other, the generations that will follow.

Notes

[1] Interview with Walid Tabar, Director of Value Added Services at Rotana; January 2006

[2] "Reality TV is here to stay," MEB Journal; July-August 2005

[3] Ibid

[4] Comtrax Solutions, research by television consultant Jihad Bitar; January 2006

[5] "Palestinian Carries Tune and His People's Dreams," New York Times; August 22, 2004

[6] "PA pins hopes on its own 'Superstar' contestant," Jerusalem Post, Aug. 18, 2004

[7] "Sat Free-to-Air TV channels Mania!," by Arab Advisors Group; Oct. 2005

[8] "TV Broadcasters in the Middle East Face Significant Challenges," by Booz Allen Hamilton; Sept. 2004

[9] "Strategic Review of the Television broadcasting sector in the Middle East," by Booz Allen Hamilton; Nov. 2005

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Feature Article

On the Ground: Calling the Bedouin

A new day dawns over the desert and a melodious prayer call cracks the silence of the "Moon Valley". For the Bedouins resting here, it signals the time to rise and start the day's work, as it has been for generations the rhythm of their nomadic life.

But not only traditional sounds of human presence interrupt the quietude of the harsh, solitary terrain. As the sun rises, mobile phones ring out, busily injecting their jingles into the morning's bustle.

The phone call brings welcome news to Khaled Themyan Zurabi. A group of European tourists wants to come for an unscheduled visit and their tour operator requests Khaled to be their guide.

This is because Khaled's home region, the Moon Valley, is not just any place in the middle of nowhere. It is Jordan's desert national park, known around the world as Wadi Rum – full of astonishing sights, breathtaking, serene, and a paradise for rock climbers and adventure tourists.

At age 26, Khaled has been working as a guide for foreign visitors for some eight years. For the past five or six years, he used his mobile phone as the prime conduit to arrange his business – like most of the almost 400 Bedouin tribesmen who work in the rugged desert in service of tourists, who are drawn here by Wadi Rum's famed colored rocks and great canyons.

"International tour operators and tourists call us from Europe and the U.S. to book us," says the young man, smiling because this morning's phone call made his day in the low season.

Khaled readies his old Toyota pickup truck and prepares himself for the tourists who wanted a break from their stay in one of Jordan's fanciful Red Sea resorts in Aqaba, some 40 kilometers away, and booked three days in the desert. With his mobile as his companion, Khaled soon after sets out to greet his visitors and embraces another working day with good pay in the area where tourism is the best and most sustainable source of income.

Although the mobile phone is a fairly recent addition to the life of the Bedouin families of Wadi Rum since coverage has extended to the region only around the turn of the century, guiding strangers across the desert is not at all a new thing to the tribes. For centuries, the Bedouin constituted the poorest – and proudest – segment of Arab society. The Bedouin, a Western adaptation of the word 'bedu' which means inhabitant of the desert, were an important part of the social and economic makeup of the region where their nomadic culture was complimentary to the lives of the settled farmers and the urban population.

With their tents as their main possessions, the nomadic Bedouin tribes lived off their herds. For the urban Arab

traders, they played important roles as guides and staff traveling with trading caravans. They also pacified the desert trade routes and were paid for maintaining the safety of caravans. In the 20th century, many Bedouin had to leave their traditional lifestyles behind and were left with no alternatives to settling as farmers in villages or moving into the cities and seek work there or join the government services in police or armed forces. While the Bedouin lifestyle vanished gradually in many Arab countries, it is still respected on the Arab peninsula. Tourism is one of very few areas where the Bedouin can maintain an independent semi-nomadic culture and make by modern income standards a decent living.

As it has for rural populations and marginal economic groups in sub-Saharan Africa, the mobile phone emerged as significant contribution to the wellbeing of Bedouin in the 21st century. It is today a fixture of life for entire clans such as Khaled's family, the Zurabis of Wadi Rum. "Our job has become easier with the introduction of mobiles," remarks one of Khaled's cousins, working like him as a tour guide. "We keep in touch with our customers around the clock."

While they are unmistakably most content with their own culture, sporting the white long cloaks (Dishdasheh) as their attire of choice and not donning them as mere dress uniforms for the sake of the incoming tourists, the members of the Zurabi and other families with equal ease intersperse their conversations with mobile phone jargon in English. "We depend mostly on short messages to keep in touch with our clients," says Abed Sweilheyin, another Bedouin tour guide of Wadi Rum. SMS, he explains, is the best way to communicate with tour operators and visitors and keep mobile phone bills under control.

According to the tour guides, their monthly mobile phone bills run between $50 and $100, which is quite a lot in a region where traditional incomes are at the low end of the Jordanian scale which reports average per capita GDP of $4,100 annually when calculated as the more benign purchasing power parity (GDP per capita of $2,028). But in amounting to about 10% of a tour guide's average monthly income during the high tourism season, the cost of the mobile surely pays off as a business expense for the Bedouin.

It is not only the young men who handle the mobile phone technology with effortlessness. Also their parents find it easy to use mobiles without the need for Arabized format and have adopted them as the most useful gadgets in the desert. The patriarch of the family equally uses his own mobile set to connect with his children in action. Zurabi's mother, 50, keeps a mobile set at her belly as her four grown children sets out for work across the desert sands. Each of them carries his own mobile. Veiled women work in the castle-like tourist center which the Jordanian government built at the gorge of Wadi Rum. Many women work also at a local handicraft plant where they make pottery and tapestry. During breaks from their work or when a domestic matter requires the attention of a family member, these working women use mobile sets to connect with their mothers at home and it is a familiar sight to see a veiled Bedouin woman talk on her modern mobile with her husband or one of her brothers.

The economy of Wadi Rum is today fully geared towards tourism and supported by modern technology and the wit of the Bedouins who mostly hail from the Enezah tribe, whose people roam Jordan and neighboring parts of Saudi Arabia. For the young tour guides, this link across the border is a bonus in reducing their business cost. For one thing, the tribesmen like to register their pickups and 4X4s in Saudi Arabia where car license costs amount to only a fraction of those in Jordan. Similarly, gasoline prices at Saudi filling stations do not carry the tax burden they do in Jordan, and while the liter of unleaded in the Hashemite Kingdom is not expensive by Western standards, it is up to five times cheaper on the Saudi side of the border. This makes quite a difference for the about 150 car drivers in Wadi Rum who are licensed as operators of tourism vehicles. Their large SUVs are the 'desert ships' of today, but real-life camel rides are equally available – and just as pricey.

Overall, the economy of Wadi Rum has been thriving over the past few years, and its strong outlook spells a good future for the Bedouin, many of whom now have their permanent homes in a housing area which Jordanian authorities have set up near Wadi Rum. Satellite dishes are seen on rooftops of small brick houses, equipped with electricity and tap water. The Rum Rest House, the central overnight guest facility in the Wadi, is another asset that the government in Amman provided in support of developing the tourism trade. Since it was set up on Sept. 5, 2004, the Rest House has received 170,000 tourists from across the globe.

The upswing in Jordan's nature and adventure tourism, which had been interrupted for about one year during the Iraq crisis but has regained its full momentum in the past two years, makes the mobile phone an ever more important part of the modern Bedouin fortune. It is thus good news for this remote area that Jordan's mobile phone sector is considered one of the Arab countries' most competitive, according to a survey conducted by Amman-based telecoms consulting firm, Arab Advisors Group. In the country where almost half the population of 5.5 million today owns a mobile phone, two out of the four existing mobile networks provide strong coverage in the southern desert and are widely used there.

The mobile also makes it very feasible for new Bedouin tour guides to forge relationships with the big tour operators or even develop their own independent business links directly with European or American customers who easily become infatuated with the beauty of the desert and gladly refer friends and colleagues to their hospitable and honorable guides or even come for return visits themselves.

In the old days before the mobile networks made their way into the desert, a few landline phones also supported the fledgling tourism activities of Bedouin guides, but things were a lot more inconvenient. Before 1998, hopeful tour guides used to huddle next to the few functioning land line outlets, which had been introduced to the area in 1986 but usually operated badly, in anticipation of tourist groups. In still earlier days, which some of today's

older guides remember when they started welcoming visitors to Wadi Rum around 1970, the area sported neither electricity nor tap water.

Much has progressed since then, says Sabah, a 50-year old guide who guided his first group of foreign guests as a teenager in the 70s. Sabah has been using the mobile phone for 4 years now and he couldn't imagine doing without it anymore. "My business today is better than ever," he says, patting his mobile.

Sixty-five year old Hazem hails from the well-known Abu Tayeh Tribe. Hazem sits at the fire as his siblings collect wooden sticks to fuel the flames inside a shabby black tent. Although the brute life of the desert has carved his face beyond his age, his smile softens the lines that make him appear like an 80-year-old would in the city. He proudly points to a plot of land next to his tent. "This land was the battlefield mentioned in Lawrence of Arabia's Seven Pillars of Wisdom," he states, and starts recounting the family's tales of glory about his grandfathers who fought alongside the British officer in 1916, under the Arab Revolt Banner against the Ottoman rule.

Now, in the winter months, it is the low season in Wadi Rum. The first high season period starts in March and runs through April and May. It is followed by a slowdown in visitor traffic during the summer until it picks up again in September, October and November. It is a time for spinning dreams for a better future. Khaled, while driving out to meet his party for the welcome commission he received his morning, negotiates the desert gullies and rocks of the rugged terrain without a stop while he carries on planning how he will establish his new tourism business that shall nurture him and the family he wants to raise in the land that he is so attached to in an unassuming, non-pretentious way.

He has already earned a university degree and since recently, he has internet access with enough bandwidth that he feels confident about establishing a site on the wonders of Wadi Rum. The Bedouin life and mobile communication are a perfect match for him.

Back at the Rest House, Sabah Salem Sweilheyin, 28, flips his mobile phone open in the shadows of rocky peaks. An operator in Amman calls in an order for a day group of American tourists coming down from the capital tomorrow. As soon as Sweilheyin closes his phone, he opens it again and calls one of his cousins and asks him to get ready for tomorrow's guests.

IV:
Impact of Mobile Phone Networks in Iraq

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Evolution of the Iraqi Communications Sector

Mobile phone networks have been available in Iraq since 2003

Enthusiastic Beginnings

Iraq is the home of one of the world's oldest civilizations. The land between the Tigris and Euphrates rivers has been continuously inhabited since the civilizations of ancient Mesopotamia flourished in this fertile land over four millennia ago. In the seventh and eighth centuries, Baghdad became the centre of the Abbasid caliphate. In 1258, the capital was captured by the Mongols. The Ottomans took the city in 1534-35 and held on to it for nearly 400 years.

From 1921 to 1932 the British, under a League of Nations mandate, set about creating the institutions of government. During those years, Baghdad and few other major cities witnessed the introduction of manual telephone networks. Iraq gained formal independence following the end of the British mandate in 1932. A military coup in 1958 overthrew the monarchy in a bloody coup and unstable governments followed until 1968. From 1968 to 2003, the Ba'ath Arab Socialist Party ruled Iraq. A US-led war began on March 20th, culminating in the fall of the regime on April 9th.

The combination of the fertility of the Mesopotamian plains and the location of the government in its capital city has led to rapid population growth in Baghdad province. Ever since the adoption of state planning policies in the 1960s, which were designed to develop industry and to manage the agricultural sector, there has been a general and accelerating trend of migration to urban centers from less prosperous rural areas. Baghdad and its surrounding province accounted for more than 31% of the population at the time of the 1997 census. Some 75% of Iraq's population now resides in towns. The urban population grew by approximately 5% a year between 1960 and 2000, according to UN figures, and reached 24.51 million in 2002 according to an IMF estimate.

In March 1947 a ministry responsible for communications was established in Iraq for the first time. A young Iraqi with a PhD in mechanical engineering from Birmingham University – a rare qualification at the time – was appointed as the minister for the newly created ministry. During his first year in office, Dr. Dhia Jafar took the decision to replace the obsolete manual exchanges in Baghdad, Mosul and Basra with the more advanced automatic exchanges. He also decided to employ women operators,

despite the numerous oppositions he faced from religious clergy at the time. In his memoirs, Jafar described the intense pressure he was subjected to in order to reverse his decision. But he never did and the result was that many of those that were against the controversial decision came to the ministry months later requesting him to appoint their female relatives in the new job openings[1].

Until the early 1980s, Iraq, the second largest oil producer in the Gulf, was one of the most promising countries in the Middle East. It was characterized by its long term plans for development. When data networks started to spread in the developed countries along side voice networks, a technical group within the government proposed a modest project within the 1983 budget for introducing such network in Iraq. The 1983 budget was subjected to severe cuts as a result of the heavy military spending on the Iraq-Iran war effort. The budget allocation for the data network was turned down. And all subsequent attempts in later years met with the same end.

Internal Oppression and Wars Stifle Communications Evolution

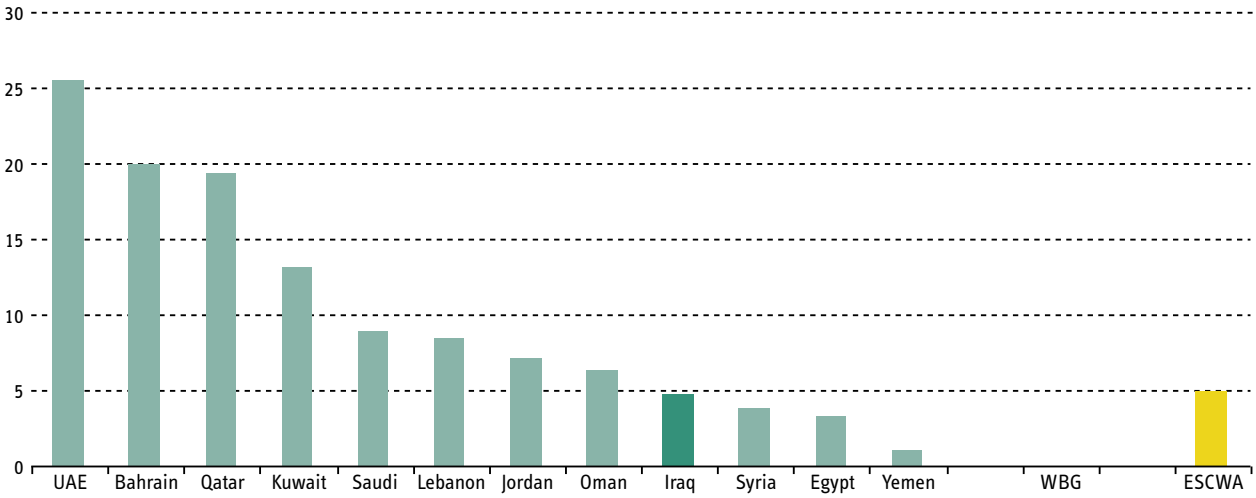
Iraqis never had the opportunity to use general purpose data networks until 2001. In fact the reluctance was not only due to budgetary constraints. Accessing and exchanging information should only be entrusted to those loyal to the regime. Those that worked in IT and telecommunications in government departments had to be cleared by Security. The private sector was not allowed to acquire computer systems until the spread of the PCs in the late 1980's. The National Computer Centre (NCC), that had the central responsibility and heavy handed role for IT government policy, was instrumental in raising false anxiety amongst political leaders about the potential threat of IT to the safety and security of the regime. This way, the NCC was able to enjoy a trusted and privileged role in government and became and faithful watchdog for the regime.

The telecom company gained a similar status through different means. The Ministry of Transport and Telecommunications became the cover for the Military and Intelligence for their procurement of equipment that proved difficult to purchase directly. It also provided the infrastructure, through the operating company, for eavesdropping and monitoring conversations, both local and international. Iraqis were reluctant to talk freely on the phone. There were many cases of people getting arrested for being overheard making mild criticism at the regime, or worse if the name of the President was in one way or the other brought into the conversation.

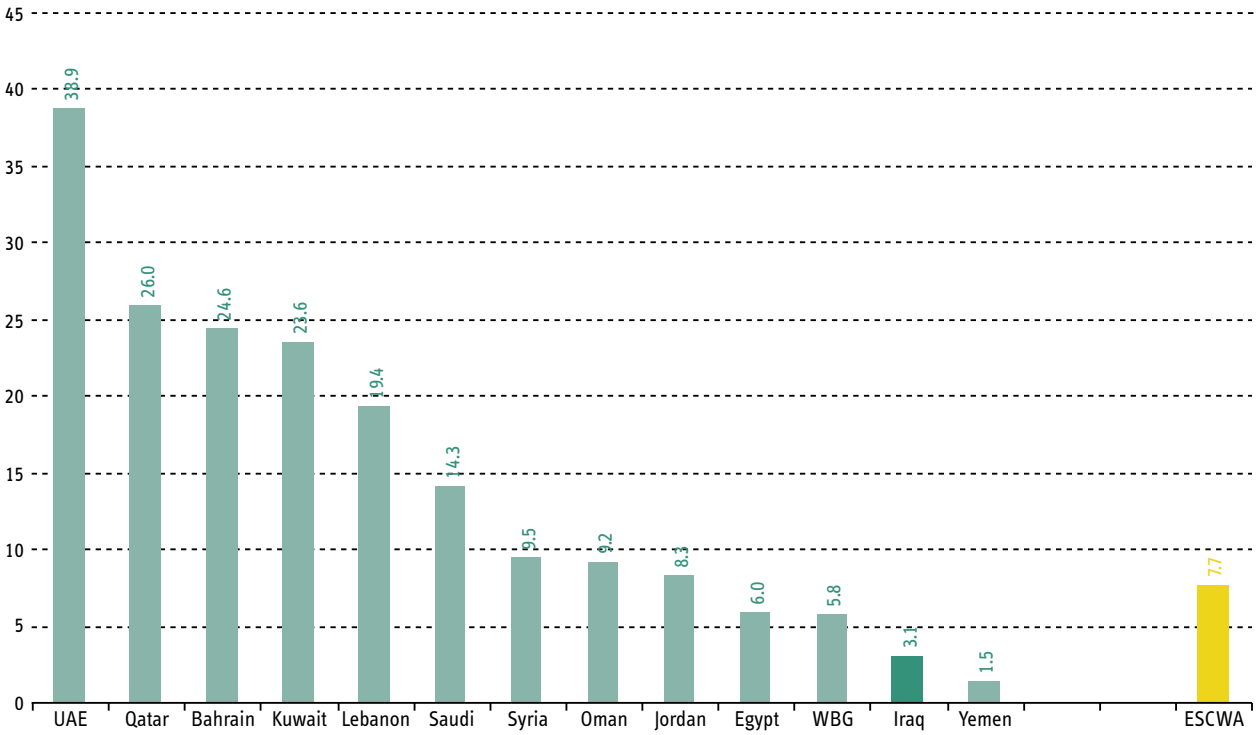
Iraq suffered from wars, sanctions and occupation in the last two decades. The Iraq-Iran (1980-1988), and the first Gulf War of 1991 left Iraq with a heavily damaged infrastructure. In those years, Iraq allocated insufficient funds for civil communications. The sanctions imposed on the country between 1990 and 2003 worsened the situation further. Iraq Telecommunications and Post Company (ITPC), a government owned monopoly, which is part of the Ministry of Transport and Communications, has been responsible for the provision of telecommunications services and Internet access with heavy monitoring from security and intelligence departments.

During the 1980's, French telecom manufacturer Alcatel was behind the solid telecommunications network that Iraq enjoyed. The fixed line density then was around 5.6%. This density dropped to 3% after the 1991 war and remained so until 1998. The percentage then increased to around 3.5% in 2002. The Iraqi regime was reluctant to introduce mobile networks in Iraq as they were considered a security risk. However, a change of attitude happened in the late 1990's and early 2000's. During those years, the ITPC tried relentlessly to acquire a mobile cellular system, but failed for reluctance of international companies to break the international sanctions imposed on Iraq. A much delayed approval of the UN for a contract with a Chinese company never saw the light. The Chinese company declined its offer for fear of US threats. In 2003, Iraq was the only country in the region without a mobile cellular network.

Teledensity for western Asian Countries (ESCWA) 1990



Teledensity for western Asian Countries (ESCWA) 1998



The above charts showcase how Iraq's teledensity dropped between 1990 and 1998 while the other countries' increased. Iraq's teledensity remained stagnant till 2003

Iraqis that attempted to smuggle satellite phones into the country were prosecuted, some were even executed for treason or spying. Receiving satellite TV channels was also a crime of softer punishment. Those caught with receivers and antennas were sent to six months imprisonment and a fine of about $200, a fortune for Iraqis in those days. Those Iraqis that were privileged to travel to neighboring countries looked with envy to people with mobile telephones that were able to use for business and pleasure. Several well-to-do Iraqis managed to smuggle long distance cordless telephone sets were able to pretend affluence by flashing their bulky handsets in restaurants and other places and used to place them on the table to call or receive calls.

Internet was made accessible in Iraq in 1999. However,

the domain name ".iq" was already taken in 1997 by Info-Com, a US based group whose directors were imprisoned in 2002 for allegedly funding Hamas. Iraq recovered its domain in 2005, but has done very little so far to develop a proper Internet infrastructure and services. The service was provided to government departments through a central government provider heavily monitored by security and intelligence departments. The provider monitored all mail in real time, banned web mails, Hotmail, Yahoo and the like. It also blocked web sites that deal with explicit sex and politics unacceptable to the regime. In later years, the Internet service was made available in about 10 government-run Internet cafes, and to private homes that could afford the service and could obtain security clearance. The total number of Internet users in 2002 was estimated at around 25,000[2].

Communications for the New Iraq

Immediately after April 2003, Iraq went through "free-for-all" services for international access of voice and data via satellite. In the months that followed, Thuraya Satellite Telecommunications had many customers. By July 2003 there were about 45,000 subscribers, which constituted about 30% of Thuraya total number of subscribers. Other satellite operators were also encouraged to enter the Iraqi market, but demand sharply declined after the start up of the GSM networks during 2004 in the three regions of Iraq.

The Coalition Provisional Authority (CPA) also provided a limited cellular network for its use as well as senior government officials and NGO's. The service is provided through a New York hub that provided international access to the network.

In October 2003, three contracts were awarded for three regional GSM mobile networks. Technically, as well as economically, the need to go ahead with mobile cellular networks in Iraq was a must. First, the landline network was in a bad shape. To reconstruct a new network was costly as well as technically out of date. Second, the teledensity in Iraq, at its best before 1991 was about 5%: hardly a suitable penetration rate compared for 2003. Third, there are many success stories in using wireless networks in similar situations in the world. Fourth, the convergence of the Internet and mobile communication is undoubtedly a future trend line that should not be undermined.

Looking back, the priority given to the mobile sector in Iraq, and the speed at which it was managed, despite all the rumors and scandals that surrounded it was justified. In the past, the ITU started publishing statistics showing the correlation between landline penetration and the country's GDP. Since 2000, the ITU discovered that the correlation between mobile penetration growth and GDP is getting stronger and more relevant to Information Society measurements.

In 2004 the Iraqis were able, for the first time, to acquire their own mobile numbers. The growth in mobile subscribers was unprecedented in the region. Despite low income and security hazards, the Iraqis rushed for the prepaid cards for mobile numbers, reaching around 1.3 million by the end of 2004.

Those Iraqis that have bank accounts in hard currency outside Iraq were able to subscribe as post-paid. However, that rate is very limited, standing at approximately 0.9%. The number will certainly increase once the banking system in Iraq is improved and ordinary Iraqis are motivated to open bank accounts and acquire credit cards. In March 2005 the recorded growth was about 37% and the estimated number of subscribers by the end of 2005 is estimated to be around 3.45 million. Mobile penetration in Iraq has nearly reached 12.5%. The high insecurity situation in present day Iraq has proved to be the best promoter for mobile services!

In terms of subscriber growth and network implementation, the Iraqis demonstrated their prowess in the new communications culture by quickly getting into the game of exchanging SMS jokes about their present predicaments. Jokes about political quibbles, insecurity and

sectarian anomalies, as well as greeting messages have become the order of the day. Voting for song competitions and quizzes are flooding the networks.

On a more serious note, the mobile has emerged as an essential security gadget for families for checking on the safety of their members, especially schools and university students, when they are outside their homes or are late in returning after curfew hours.

Overall, it seems that Iraqis recently trusted the reliability of the mobile networks more than the fixed lines to the point that mobile networks are presently used as substitution rather than complementation to land lines. This is not an indicator that mobile services function without any blemish, however. While Iraqi customers have readily taken to the mobile habit, they often expressed their dissatisfaction with the services offered by the three operators over the past two years. The main complaints were over the billing setup that disadvantaged clients through high consumption of units and over problems associated with interconnection difficulties between the three operators. These interconnection troubles among the mobile networks and also between them and the Iraq Telephone and Post Company (ITPC) fixed line network, reached levels which forced some subscribers to carry three mobile sets at the same time.

All advantages and setbacks included, the freedom of communications, never enjoyed by Iraqis for decades, is now available to all. Here one must add that this freedom is also extended to insurgents and terrorists. It is well known that mobile communications is one of the most important channels for coordinating terrorist activities and suicide bombing attacks. The mobile is also a preferred means that insurgents use for remotely setting off explosives, as well as the favorite channel that kidnappers use for contacting the families of their victims and negotiating ransoms for kidnapped persons.

The good use of mobile phones, however, clearly outweighs the bad. On the business side, for instance, more and more small businesses are learning to mobilize the new tool for their benefit. Taxi drivers are receiving pickup orders from customers on their mobiles, hairdressers are booking appointments, and many groceries and open market businesses are exchanging prices data via the mobile.

Lingering Obstacles but Even More Chances

The reconstruction of Iraq's fixed line network has been going at a slower pace than had been anticipated due, partially, to the security situation and lack of available funds. The fact that ITPC is a monopoly which is run by interim governments also contributed towards the slow pace. The WLL (Wireless Local Loop) contracts that were almost finalized towards mid-2005 have not been awarded. Once completed, it will add about 1.5 million lines to areas of Iraq that badly need the service.

The WLL networks will also provide a more affordable alternative to the relatively expensive prepaid mobile systems. As the security situation has hampered the reconstruction process in Iraq in many well-known ways, the ICT sector is one of the sectors that actually achieved profound progress. This progress could have been even greater had the security situation been better. In many tracks of the development and reconstruction process, one has to go to the grass roots. There is a lot yet to be done in the area for capacity building in information and communication technology, particularly at the educational and professional training level.

In this context, the convergence of Internet and mobile communications cannot be overemphasized enough. The WSIS summits in Geneva (2003) and Tunis (2005) emphasized the tight coupling of information and communication technology. The set of indicators that ESCWA is working on together with a number of international UN agencies on the measurements of Information Society reflect this fact. Wireless is being used more and more

for data communications and local networks. The growth of data services and mobile commerce is a case in point. Therefore, one cannot deal with the mobile sector in isolation from other related ICT sectors.

In the insecure, yet free, communication haven of new Iraq, the Internet also witnessed an unprecedented growth. VSAT stations started to appear in many cities and towns in Iraq. The number of users immediately increased from the low 25,000 in 2002 to 50,000 in 2004. The estimated number in 2005 is around 150,000. For the first time, Iraqis were able to access sites, create Hotmail and Yahoo addresses, chat and talk on VoIP. Bloggers also started to appear giving accounts of day-to-day events. As was the case in the mobile sector, the new free communication environment also brought with it freedom for terrorists to flaunt their "achievements" and show the grisly slaughtering of hostages on the net.

Education is one of the greatest hopes in the new Iraq, and ICT is indispensable for its development in more than one way. The education system in Iraq was considered to be among the best in the Arab region until the 1980s. However, due to two major wars and more than a decade of sanctions, the education sector has been a prime victim.

A recent situation analysis of the education sector identified major issues and problems facing higher education, e.g. inadequate infrastructure, with outdated, or no, facilities and equipment, lack of modern tools and curricula for important disciplines, such as information and communications technology, the need to establish channels of communication among faculties, both inside Iraq and with foreign scholars, and a weak relationship between higher education and the labor market. ESCWA proposed the Iraqi Networking Academies project in close consultation with Cisco and the Iraqi Ministry for Higher Education and ICT faculties in several universities in Iraq.

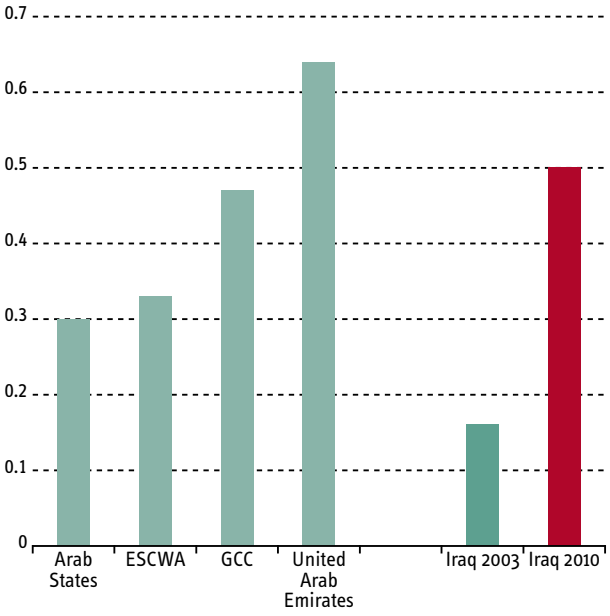
Additionally, Iraq has been facing regulatory, reconstruction and development challenges. Beyond security, Iraq particularly needs to strengthen governmental institutions, restore infrastructure and provide core human services. The rehabilitation and development of the infrastructure is a necessary condition for the improvement of quality of service and enhancement of the country's economic competitiveness. However, policy and institutional issues are yet to be addressed.

In a closing outlook, it is a reasonable expectation that Iraq should catch up with the rest of the region in other ICT related services and applications. Despite the country's complicated political transition, the introduction of GSM services proved successful and Iraq proved itself as a booming market.[3] The ITU Digital Access Index could be used as a benchmark for achieving penetration targets for Iraq. If the targeted year is 2010, then the government of Iraq should draw investment in ICT through national, regional and international private sector sources of the order of $7.8 billions in the coming five years[4].

Iraq 2003 (actual) and 2010 (targeted)

Category	Variable	Iraq 2003 Values	Iraq 2010 targeted values
1. Infrastructure	1. Fixed per 100	3	30
	2. Mobile per 100	0.3	30
2. Affordability	3. Internet access price as % of GNI per capita x100	50	100
3. Knowledge	4. Adult literacy	40	60
	5. School enrolment	58	7
4. Quality	6. Internet bandwidth per capita	1.5	50
	7. Broadband subscribers	Almost 0	2
5. Usage	8. Internet users per 100	1.0	10

Digital Access Index comparison



In 2010 the penetration rates for fixed and mobile subscribers should be no less than 30% each. Internet penetration should not be lower than 10%, and broadband services should be accessible and affordable by a good percentage of Iraq's population.

A delegation headed by the Minister of Communications Dr. Jawan Masoum attended the WSIS 2005 in Tunis in November 2005. In the follow up to Tunis questionnaire that ESCWA sent to its member countries, the Iraqi Ministry of Communications stressed the following actions as part of its post-WSIS plan[5]:

- Providing affordable access to ICT services;
- Creating policy and regulatory incentives aimed at universal access and the attraction of private sector investment;
- Enhancing regional cooperation and create multi-stakeholder partnerships, especially by creating incentives for building regional backbone infrastructure;
- Turning the digital divide into digital opportunity, and ensuring harmonious and equitable development for all;
- Promoting ICT education and training through governments/ other stakeholders' partnerships, by establishing national strategies for ICT integration in education and workforce development and dedicating appropriate resources.

Iraq has a long way to go in restructuring its ICT sector. There are success stories in the region from which Iraq should draw trend lines and directions. The case of neighboring Jordan is one example. The Iraq Communications and Media Commission (ICMC) should undergo a major institutional capacity building process.

The freedom of communications is one of the few visible outcomes of new Iraq. A long term strategy and a plan of action should be drawn out as soon as possible for the ICT sector. Iraq should seek support from UN agencies such as ITU and ESCWA for the formulation of an e-strategy. It should also look at best practices and lessons learned from countries in the region and outside.

Notes

The views expressed in this paper are solely those of the writer, and do not represent the views of the United Nations Commission for western Asia (UN ESCWA)

[1] Dhia Jafar Memoirs, Al Adeeb Press, Baghdad, 2001

[2] 2005 Telecoms, Paul Budde Communication Pty Ltd, 2005
Website: www.budde.com.au

[3] Arab Advisors Group, Strategic Research Workers, "Iraq's cellular market: Booming despite the political strife"

[4] See the box for charts and DAI calculations

[5] ESCWA Follow-up on the Implementation of the WSIS Commitments Questionnaire

Roula Yazbeck and Imad Ghandour

The Iraqi Mobile Bang

Foreword

Iraq is a nation in transition. The past 25 years have been one of the most turbulent periods in the country's modern history. Under the totalitarian rule of Saddam Hussein and the Baath party, the nation was driven to war three times: the Iran/Iraq war in the 1980's, followed by the first Gulf War in 1990 and the second Gulf War in 2003. The period between the two Gulf wars was especially harsh on the Iraqi population. Economic sanctions coupled with the regime's mismanagement of funds led to an acute deterioration in living conditions and a breakdown in infrastructure. The de-development (regression) the country went through culminated in the demise of the Saddam regime.

Today, Iraqis are adjusting to a new reality. For the first time, they are dabbling with concepts of freedom and democracy. Through once banned satellite TV channels, Iraqis are espousing the modern world. The centrally planned economy is being liberalized and entrepreneurship is budding. Small and micro businesses are fast becoming a key driver of the economy.

The introduction of mobile telephony has undoubtedly been one of the most significant developments in everyday life of many Iraqis in this new era. Since the granting of the first operator licenses in 2003, mobile phones have taken Iraq by storm. Mobile subscriptions have soared to reach 3.45 million[1] by the end of 2005. This represents a penetration of 12.3% compared to a meager 3% for fixed-lines[2]. The mobile network, managed by four operators, is expanding rapidly and now covers a large majority of urban centers.

Mobile phones are, however, one of very few tangible improvements in the lives of Iraqis so far. In fact, the population is paying a heavy price for democracy. Iraq today is racked by widespread violence and an almost total breakdown in law and order. A sense of pervasive insecurity haunts citizens, especially in urban centers. As Iraqis adjust to this process of transformation, they seek ways to cope and make use of new opportunities. Mobile phones are probably one of the important elements helping them do so.

Introduction to the Community and Business Surveys

This study is one of the first to assess the social and economic impact of mobile communication in Iraq. Results presented in this paper are based on surveys conducted with communities and micro-businesses in key locations across the country. The study focused on urban agglomerations and covered three major cities: Baghdad, Basra and Najaf.

The aim of the study is to assess usage patterns of mobile phones in Iraq and the impact they are having on the lives of civilians and on the operation of their businesses. Specifically, the study sheds light on the following:

- What is the profile of mobile owners in Iraq?
- How are mobile phones valued by users?
- What are the factors that influence usage of mobile phones?
- What are the major motivations for using mobile phones?
- What is the impact of mobile phones on people's lives and businesses?

Fieldwork was based on interviewing a broad cross-section of mobile owners that encompassed individuals from different genders, age groups, and socio-economic backgrounds. The data was collected through structured, face-to-face interviews. For the community survey, 600 mobile owners were interviewed across the three cities (200 individuals from each of Baghdad, Basra and Najaf). Respondents were between the ages of 18 and 55 and equally representative of both genders.

In addition to individuals, 360 micro-businesses were surveyed across the three cities. For the purpose of this study, micro-businesses were defined as enterprises having fewer than 10 employees, the majority of which operate in the informal sector.

The above 960 structured interviews were supplemented by 30 in-depth discussions with mobile users.

It is important to note that the usage patterns uncovered in this survey relate to those individuals who own their mobile phones. There exists a segment of the population not owning mobile phones yet accessing the service through borrowing other peoples' phones or renting from service providers. This group was not covered in the study.

Table 1: Iraq - Demographics

Population	28.1 million (2004)
Urbanization	67% (2003)
Baghdad	6.49 million
Basra	1.98 million
Najaf	0.95 million

Source: UNDP, Human Development Report 2004; World Food Program

The encircled areas indicate the locations where the survey was conducted

Findings
I. Community Survey

What is the profile of mobile owners?

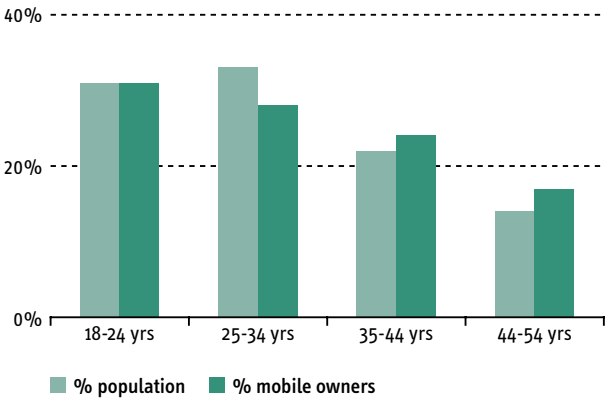
Iraq is witnessing one of the fastest growth rates in mobile penetration worldwide. Within a period of two years (2004-2005), almost one in seven Iraqis has been using a mobile phone. If this incidence is recalculated taking into account the age distribution of the Iraqi population – 42% are under the age of 15 – then penetration levels reach almost 25%[3].

An analysis of the profile of mobile users surveyed reveals that there are no major social or economic barriers hindering the penetration of mobile telecommunication across urban agglomerations. In fact, usage levels suggest that mobile phones have been adopted by the urban population at large; male and female, young and old, rich and poor. Today, mobile phones are undoubtedly the most accessible and reliable form of communication available to Iraqis. Owning a phone has become vital, irrespective of profile or background.

For the purposes of the study, the sample of mobile users was evenly distributed across genders [50% male; 50% female]. Whereas cultural norms could have acted as a barrier to female ownership of mobiles, such trends were not detected during the field survey. In fact, fieldworkers encountered no difficulties locating female mobile owners. Furthermore, the survey revealed that the majority of male mobile owners were in constant contact with their wives/mothers/daughters through two-way mobile communication.

In terms of age, the study considered mobile users between 18 and 55. A closer look at age distribution revealed that the majority (59%) of respondents were in the 18-34 bracket. Interestingly, this proportion is in line with that of the Iraqi population at large. The comparison of the sample to population census data confirms that mobile ownership is not a function of age but spans age groups almost uniformly. It is important to keep in mind nevertheless that ownership trends do not necessarily reflect usage trends. Whereas age has not been a determining factor of mobile usage in Iraq, survey results indicated that it did have an impact on the frequency of mobile usage.

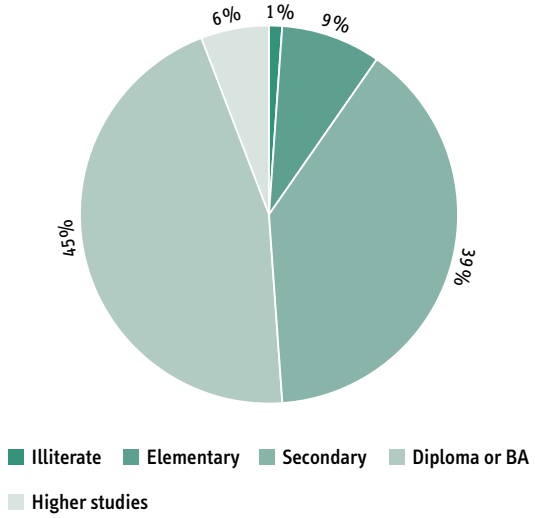
Chart 1: Age profile of respondents vs. population



Although the survey focused on adults, it is worthwhile to note that many teenagers and even children were spotted during the fieldwork using a mobile phone. In most other countries, teenagers aspire to own a mobile phone primarily to improve their image vis-à-vis their peers. In Iraq, children have a mobile phone for safety and security reasons. In one of the interviews, a mother said that she was scared to send her daughter off to school and consequently bought her a mobile phone. This enabled her to call her child daily during recess and remain in contact with her in case of any emergency.

Mobile users came from all educational backgrounds. The sample was almost evenly divided between those who had completed secondary schooling (39%) and those who had obtained a technical or university degree (45%). While looking at these figures, one needs to keep in mind that Iraq benefits from one of the highest literacy rates in the region and that education is highly prized in the country.

Chart 2: Profile of respondents by education level

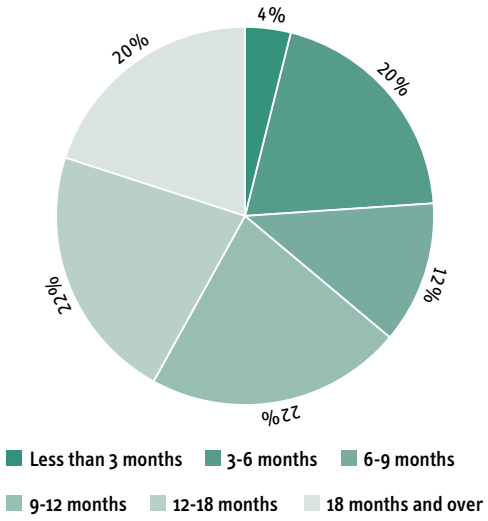


Finally, the study looked at income and its impact on mobile ownership. With mobile telephony still in its infancy in Iraq, it might have been expected that mobile

ownership would be skewed towards upper income groups. However, the widespread use of mobile phones in a country where average GDP/capita ranges between US$480-630[4] indicates that income is not a determining factor. In the sample of 600 mobile users, there is a significant proportion of users from middle and lower income groups. This is probably explained by the fact that for most Iraqis, mobile phones are not a luxury they need to afford but a necessity they can not "survive" without.

Since mobile telephony has only been available for around two years, it is not surprising that the majority (80%) of respondents surveyed have been using mobile phones for less than 18 months. Interestingly, early adoption does not seem to have been affected by gender but by age. "Early adopters" were concentrated in the 25-44 age group, the most active economically. Most individuals (57%) surveyed paid the sum of US$50-150 to purchase their mobile handset and had not changed it since. Here, income might be playing a role, as changing phones was more frequent across the sample of business owners surveyed.

Chart 3: Timeframe of mobile usage

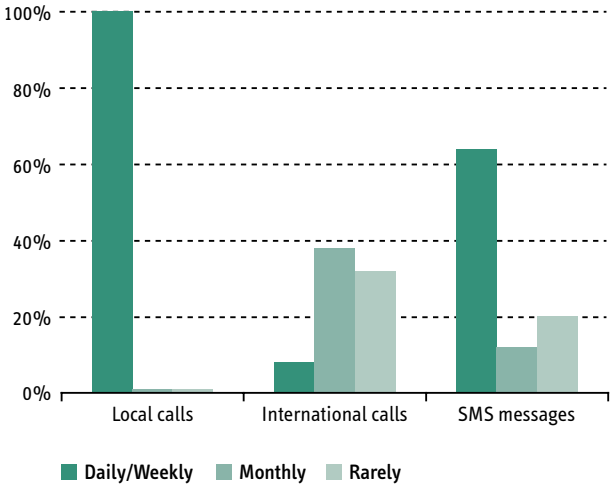


What are usage patterns of mobile phones?

What is distinctive about mobile communication in Iraq is less related to the types of services used than to the parties contacted through them. The most indicative finding in this respect is the fact that voice calls were predominantly made to members of respondents' immediate family: parents, spouse and children.

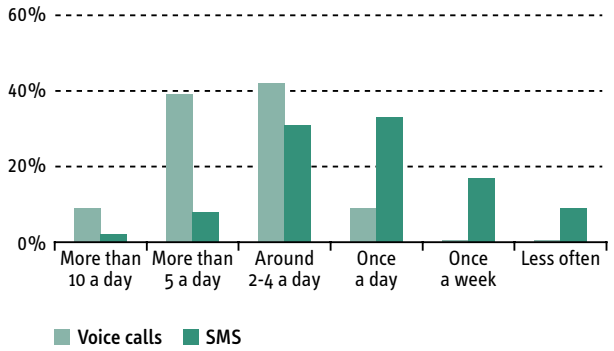
Like in most other countries, mobile communication in Iraq centers on the two basic services of voice calls and text messaging. These services were utilized by 98% and 96% of respondents surveyed, respectively. There is extremely little use of more advanced services like connecting to the Internet.

Chart 4: Usage of mobile services



The majority of respondents reported making less than 10 calls per day: 42% made 2-4 calls a day whereas 39% made 5-9 calls. The frequency of using text messaging was lower with most respondents using SMS less than 4 times a day: 31% used SMS 2-4 times a day and 33% once a day.

Chart 5: Frequency of using voice calls and SMS



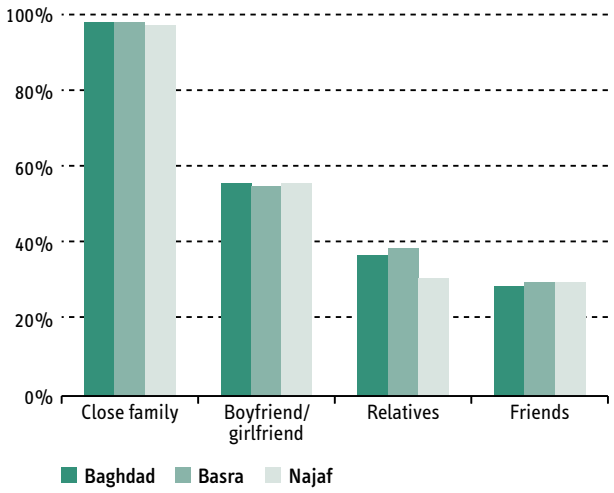
Mobile users have nevertheless taken up international calling. Results showed that 79% make calls to destinations outside Iraq. This is not unexpected when the dispersion of Iraqis is considered. The past years have witnessed increasing emigration of Iraqis and a sizeable community now resides in Jordan. The easiest way for these families to remain in contact is through telecommunication. Due to the higher cost involved, the frequency of making international calls is nevertheless lower: 8% of respondents used the service weekly compared to 38% who did so on a monthly basis. International callers tend to be "heavy"[5] mobile users; 57% of heavy users made monthly international calls compared to 20% of "light"[6] users.

Age has emerged as a critical factor in affecting the intensity of mobile usage. Unsurprisingly, young adults were the most frequent mobile users. For voice calls, the heaviest users were in the 25-34 age group. For SMS, on the other hand, the age bracket also encompassed the 18-24 year olds. Just like in other populations, young adults are the most familiar with using SMS and are probably keener on the "fun" aspect of the service. In addition, the 18-24 age group – mostly students – have lower spending power and are probably more inclined to use the less costly text messaging service.

The "missed call" syndrome has also made its appearance in Iraq. In order to save on making voice calls, most respondents (74%) reported making "missed calls" (i.e. calls that do not get charged). This entails dialing a number and hanging up before the call is connected. The majority of users said that they made "missed calls" mostly to indicate to the other party to call them back.

It is stating the obvious to note that the majority of respondents surveyed used their phones primarily for personal calls. What might be more distinctive though, is the greater focus on calls to family members: 98% of respondents reported using their mobile the most to call their parents, spouse and children. Using the mobile to contact friends was also very common for 73% of users. However, such calls were made less frequently than the ones made to family members.

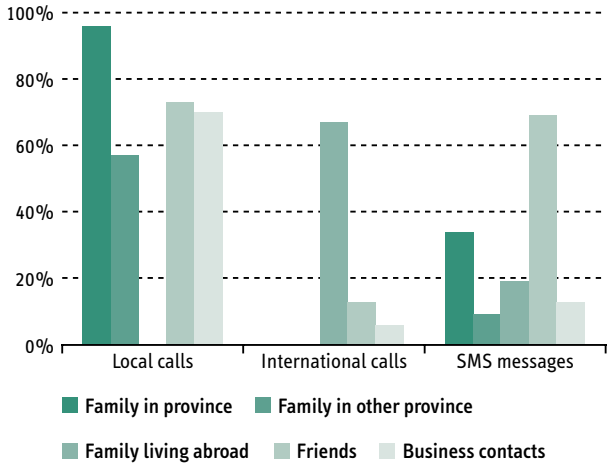
Chart 6: Parties contacted the most through voice calls



For international calls, users also gave priority to their families. Sixty seven percent of respondents made calls to relatives living abroad whereas only 13% and 6% did so for friends and business contacts outside the country, respectively. As an example, a family in Baghdad explained how they sent their eldest son to pursue graduate studies in Amman, Jordan. They call him once a week through the mobile phone to check on his well being and exchange with him the latest family events and happenings.

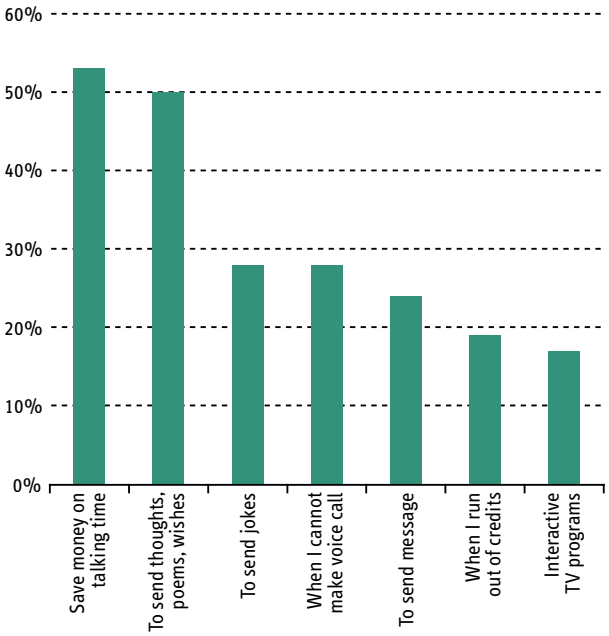
For text messaging on the other hand, usage patterns changed significantly. The majority (67%) of respondents said they mostly text message their friends.

Chart 7: Parties contacted the most



The motivation to send text messages seems different to that of making voice calls. Whereas respondents made voice calls out of necessity, urgency or to reach a party fast, SMS seemed to be used in less "critical" situations. Respondents told us that the two main reasons for sending text messages were to save money on calls (53%) and to send pre-formulated wishes/poems/thoughts (50%). These were followed by sending jokes (28%) and reaching people when voice calls cannot be made (28%). Some users also reported using SMS messaging to participate in interactive TV programs on satellite channels: 17% of respondents said that they sent SMS messages to participate in TV competitions and voting. A respondent recounted how he regularly sent SMS messages to vote for his favorite participants in TV programs featuring new singing talents.

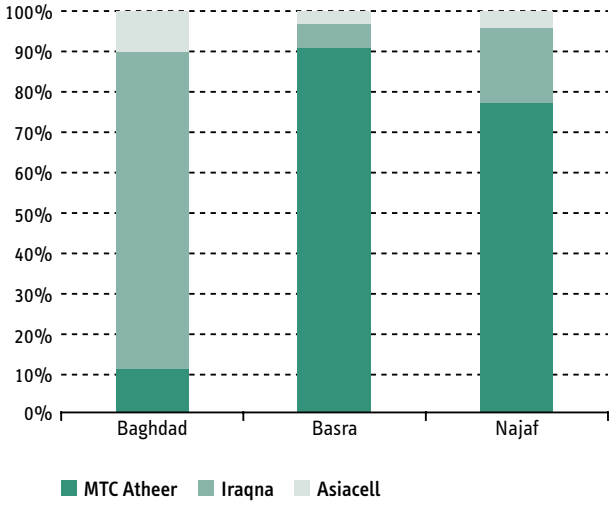
Chart 8: Motivations for using SMS



Usage patterns have also revealed that mobile phones are used mainly when respondents are outside their homes, in emergencies and to contact other mobile phone numbers. Fixed-lines, on the other hand, are used to make lengthy calls mainly to other fixed-lines. Respondents said the key benefit in using the fixed network was its economical aspect – calling costs are "almost free of charge". Respondents thus tend to use fixed-lines when they are anticipating long conversations, mainly to family members. Fixed-lines however fell short in offering respondents reliability and mobility and are also perceived to be significantly less effective in emergencies.

The above trends were uniform across Baghdad, Basra and Najaf. In fact, users across the three cities surveyed exhibited very consistent attitudes and behavioral trends. The only significant variation noted is in the penetration of mobile operators. Whereas the majority of respondents in Basra and Najaf subscribed to MTC Atheer, most respondents in Baghdad used Iraqna. It is important to note however that MTC Atheer had a lead time of two years in Basra and Najaf over the other operators, which has allowed it to build a bigger market share.

Chart 9: Respondent mobile subscription by operator



Life in Iraq and its impact on communication needs

Mobile usage in Iraq is intrinsically linked to the uncertainty the country is experiencing. It was clear from the survey that use of mobile phones was, to a very large extent, affected by the challenging conditions respondents were living in, namely: the absence of security, constrained mobility and a deteriorating infrastructure. These issues were equally relevant to all profiles of respondents across the three cities surveyed.

Three in four respondents said that they suffered from a constant feeling of insecurity. They explained that their days were plagued by recurrent incidents of violence and

news of explosions, kidnappings and robberies. Eighty percent continuously felt worried about the safety of their loved ones. Such anxiety has naturally led to an intensification in the communication requirements of Iraqis with the majority saying that they needed more frequent communication with their family members. In addition, respondents mentioned that due to the prevalent circumstances it was vital they obtain regular news about security developments and about the accessibility/safety of roads.

One respondent explained that security incidents occurred on a daily basis and that following news of any explosion or car bomb he had to enquire about the safety of family and friends living in the area. He also had to check road accessibility in order to plan his trip back home. Another example was that of a female head of household who needed to know the latest news every morning in order to decide whether or not to send her daughter to school.

Table 2: Impact of insecurity on daily life

Continuous worries about safety of family and friends	80%
Do not go out in the evening	71%
Less visits to entertainment venues	48%
Spend less time outside home	47%
Less visits to religious sites	41%
Continuous worries when on the road	36%
Less visits to family and friends	33%
Spend more time moving from one location to the next	30%
Less visits to other provinces	27%

Faced with a greater need for communication, Iraqis are nevertheless dealing with a deterioration in traditional communication channels. Moving about has become more difficult and dangerous and consequently, less frequent. Over half of the respondents interviewed (55%) face difficulties in traveling outside their neighborhoods. The fear of roadside bombs is compounded by major delays suffered on the roads as a result of traffic jams, security blockades and road diversions. In addition, a shortage in fuel supply has led to a hike in the cost of transportation Over 70% also said that they no longer went out in the evenings and headed home at sunset for fear of being mugged.

The majority of respondents said that they are spending much more time at home. Visiting family and friends, traditionally one of the strongest means of communication, has become less frequent. This is especially the case for visits to those living in other provinces. Moving from one province to another was perceived to be perilous.

Against such a background of fear and limited travel, Iraqis also have to deal with a debilitated infrastructure. Over half of the respondents (59%) cited the breakdown in infrastructure – namely the unreliable supply of electricity, water and telephones – as having a major negative impact on their lives.

According to the survey, the majority (80%) of mobile users interviewed had a fixed-line at home. Penetration levels were similar across the three cities covered by the survey; however, they are not representative of the country at large. Penetration rates are significantly lower in smaller cities and rural areas.

In Iraq, having a fixed line at home is not indicative of having access to the service. In fact, the fixed-line network was far from meeting callers' needs. Respondents complained of unreliability, continuous breakdowns, interference and limited coverage. Fifty two percent suffered from poor maintenance and 24% from the service being out of order most of the time. Respondents also complained about the lack of privacy when using fixed-lines: 49% experience "interference", whereby simultaneous callers can hear each others' conversation. In addition, 30% said it was very difficult to make calls outside one's province. A resident of Baghdad explained how his fixed-line was almost always out of order and how the situation got worse in winter when most lines

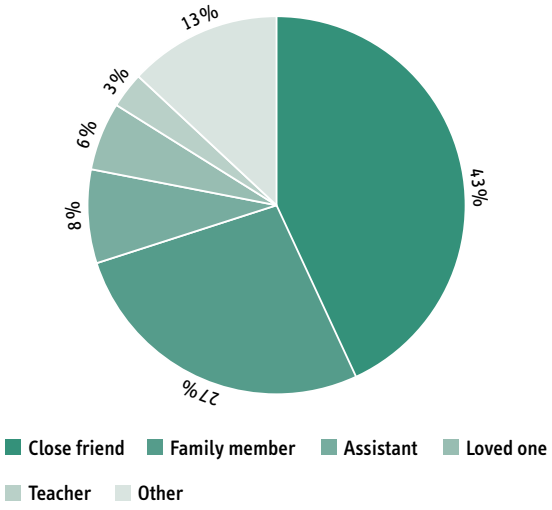
stopped functioning due to the rain. He also said that he could only call numbers within his province as it was notoriously difficult to call "across provinces".

What is the perceived value of mobile phones?

Taking all the above into account, it is not surprising that Iraqis feel let down. There is little they currently feel good about. And there is even less that is perceived to have been done to alleviate their burdens. Yet, this is not taking into account mobile phones. It is astounding how the introduction of mobile communication has impacted the population. When respondents talk about their mobiles, it feels as if they have a new face on – a positive one. For many, this is the only aspect of modernity that they are truly embracing. And in terms of improving their daily lives, probably one of the most significant developments. The impact of mobile phones is nothing but overwhelmingly positive.

The importance of mobile communication in Iraq was first apparent through users' perception of their phones. Survey results revealed that mobile phones have surpassed a purely functional value. In fact, mobiles have almost attained human proportions in their perceived status. Users have gone so far as likening their phones to the dearest people in their lives. Almost half (43%) of respondents positioned their phones as a best friend whereas 27% felt that their mobile was like a family member (mother, spouse, sibling or child). Many associated mobile phones with celebrities and super heroes like Beckham, Ronaldo and Spiderman.

Chart 10: Associations of mobile phones with persons



In line with the above association of mobile phones with loved ones, Iraqis have also created a set of (Arabic) nicknames to refer to common mobile handsets in the market. These nicknames have become the "de facto" reference used by all.

Table 3: Nicknames of Nokia handsets

Model	Nickname (Arabic)	Meaning	Justification
Nokia 1100	"Sarsour"	Bug	Small in size
Nokia 3510	"Farasheh"	Butterfly	Buttons like butterflies
Nokia 3100	"Baby Nokia"	Baby Nokia	Very small in size
Nokia 3200	"Kazem El Saher"	Famous Iraqi artist	Believed to have played a role in the model's development
Nokia 3220	"Baby Dubb"	Baby Bear	Bulky but small in size
Nokia 3230	"El Effendi"	Gentleman	Elegant shape
Nokia 6600	"Dubb"	Bear	Bulky and heavy
Nokia 7610	"Dam'aa"	Tear	Shape resembles a tear
Nokia 6630	"Ayad El Allawi"	Former Iraqi prime minister	Solid, strong and accurate
Nokia 6680	"Abu Camerateyn"	Father of 2 Cameras	Phone has 2 cameras
Nokia 6260	"Apache"	Apache	Shape similar to US Apache

There was even a case of a newborn baby being named after a mobile phone. A mother explained that she had to travel to Jordan because of complications in her pregnancy. Her only contact with her husband and family was through the mobile phone, in this case a Nokia 7610 ("Dama'a" - Tear). Following her safe return to Basra, she decided to name her daughter "Dama'a" after the mobile.

On a more functional level, respondents' top-of-mind associations revealed that mobile phones were perceived along three distinct axes:

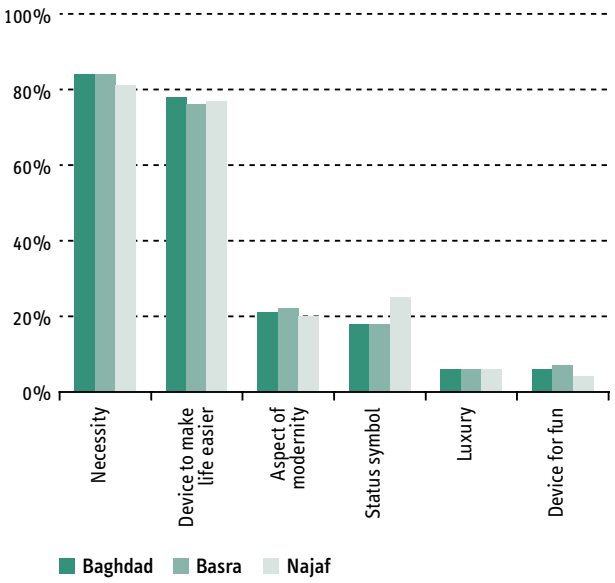
1. Indispensability: "necessary"; "vital"; "very important"
2. Functionality: "fast"; "practical"; "suitable"; "easy to use"; "problem solver"
3. Modernity: "development"; "technology"; "advancement"

Surprisingly, few respondents made negative associations; "expensive" being the most frequently cited.

When respondents were asked to define the value of mobile phones by choosing from a range of choices, their responses confirmed the above top-of-mind associations. Mobiles were, first and foremost, a necessity for every day life (83%); mobile communication was making respondents' life easier (77%).

A public telecommunications office in Baghdad

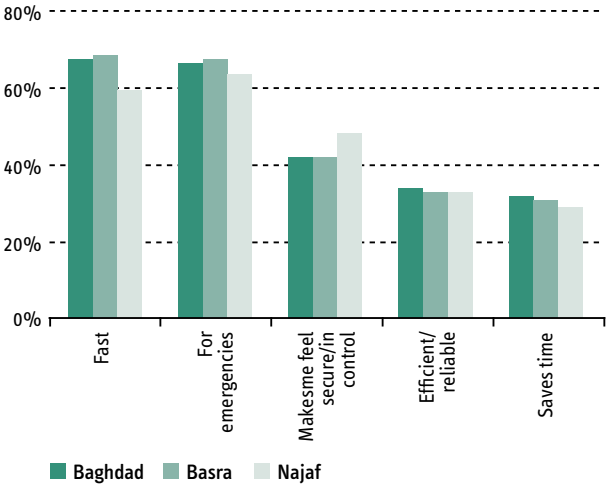
Chart 11: Perception of mobile phones



What are the benefits of mobile phones in Iraq?

When asked about the advantages of mobile phones, respondents highlighted two key aspects: that mobile phones were "fast" (64%) communication tools and they allowed users to better handle emergencies (64%). Respondents also said that having a mobile phone made them feel more secure and in control and that mobiles were an efficient and reliable mode of communication.

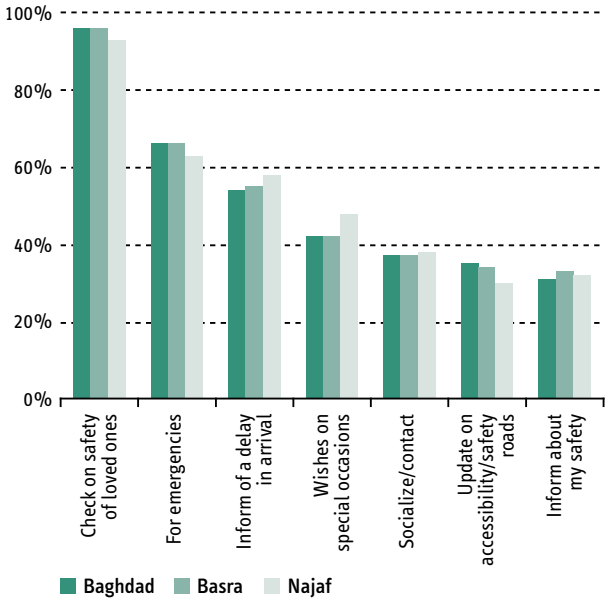
Chart 12: Advantages of mobile phones



According to the survey, the single most important concern of Iraqis today is to keep, together with their families, safe and secure. It is thus to be expected that

when respondents' listed their key motivations for using mobile phones, their top three reasons were a function of security concerns. On a secondary level, respondents said that they used their phones to socialize and re-enforce relationships. Such motivations perhaps would have featured more prominently had prevailing conditions been less perilous.

Chart 13: Motivations for using mobile phones



Safety and security

An astonishing 95% of mobile users said that they used their mobiles primarily to check on the safety of their loved ones and 81% reported that they made such calls on a daily basis. Not only did respondents call to enquire about the well being of their loved ones, they also called their parents/spouse regularly when they were out of home: 56% said that they called their family to let them know of any delays in their return home and 32% called to assure their families of their safety when at work.

As an example, a university teacher explained that he bought himself and his wife mobile phones. Every morning upon his arrival at work, he called his wife at home to inform her of his safe arrival. He then called her at the end of the day to let her know that he was heading home. Without this permanent contact, he said his wife would be "extremely anguished".

There are also many instances whereby respondents resorted to their phones when they were delayed.

A respondent recounted an incident during which he got stranded for over 12 hours. On that particular day, the respondent was making a day trip to visit his sister in Babel, which is around 70kms away from his home in Baghdad. On the way back, he found that the highway was blocked due to a major insurgent attack. Soon after, a curfew was imposed. The respondent thus had to wait until the road was re-opened. He said that the only link with his family was through the mobile phone.

Emergencies

In Iraq – probably more than in any other country in the world today – having access to a mobile phone means saving lives. The importance of mobile phones in reducing emergency response time was stressed by a majority of respondents. A significant 65% said that they used their mobile phones to deal with emergencies. In the cities surveyed, emergencies seemed to be a daily occurrence. One respondent recounted the story of his wife experiencing labor pains during the night when a curfew was in effect while another described how he survived a car bomb explosion. In both cases, having access to a mobile phone enabled these individuals to respond to the emergency and manage it the best way possible.

Birth

"One evening, my wife, who was pregnant, started to experience delivery pains; yet she was not due for another month. I could not transport her to the hospital in the family car because of the curfew. With our land line being out of order, there was no way to manage the emergency except through the mobile. I contacted the police who in turn alerted the emergency services. An ambulance was sent to our home to transport my wife to hospital. There she immediately underwent surgery as she was in a critical condition. The operation went well and both my wife and child are fine. I do not want to think of what might have happened had I not been able to contact the emergency services that night."

Bomb Blast

"We were on our way to the province of Diyala when a huge explosion occurred ahead of us. There were many dead and injured, including some of the passengers in my car. I was unscathed but at a loss for what to do. There were not enough cars around to transport all those injured to hospital. We could not even carry the badly wounded for fear of additional bombs on the way. Our only hope was to contact the emergency services through one of the mobiles we had. Help arrived within ten minutes and many lives were saved as a result."

Mobile phones have also become the main communication channel between civilians and Iraqi authorities, most importantly the Ministry of Interior. The latter has widely advertised mobile telephone hotlines that are accessible to civilians throughout the day. In a situation of increasing lawlessness, civilians thus resort to mobile phones to contact the police for help and to report crimes or suspect insurgent activities. Police in turn are using mobile phones to help reinstall law and order. In many cases, police cars communicate with each other and with headquarters through mobile phones. In one such situation, a convoy of 2 police cars was sent to round up offenders. When the convoy arrived, the police were outnumbered and needed back-up. The commander resorted to his mobile phone to request help.

Just as mobile phones are being used to enforce law and order in Iraq, they could be – indirectly – facilitating the incidence of criminal acts, namely of kidnappings. In the past two years, countless Iraqis of all ages have been subjected to kidnappings and their families compelled to paying hefty sums for their release. Ransom seekers are using mobiles as the main channel of communication for stating their demands and negotiating victims' release. Many respondents recounted to us how members of their family were kidnapped and how the mobile phone – being the only link between them and the ransom seekers – led to the safe return of their loved ones.

Kidnapping

"One morning, my youngest sister Sana'a, who is 8 years old, was waiting for the school bus in front of our home gate. Suddenly, a strange car stopped in front of the house and three hooded men got out, grabbed my sister and sped off. As the car drove away, it left behind a trail of leaflets with a mobile phone number. When we called the number, we were told that we had to pay a ransom to get Sana'a back. We refused to negotiate until we could hear my sister's voice. Once we were certain that she was unharmed, we entered into negotiations with the kidnappers that lasted for over eight days and ended in the safe return of my sister."

Relationships

Mobile phones have not only made their mark on the turbulent side of Iraqis lives, they have also been instrumental in reinforcing family and friendship ties. Survey results revealed that 44% of respondents made social calls to relay wishes on special occasions and religious feasts and 38% made calls for general social interaction. Mobile communication has also had an impact on developing new relationships. A young couple said that after their graduation from university, they remained in contact through the mobile phone and were now planning to get married.

Engagement Picture

"My elder brother lives in Canada but wanted to get married to an Iraqi girl from home. We found him a suitable bride from a conservative family. Since the bride's parents refused to give us her photograph, we brought with us a mobile phone with a camera and - with the girl's approval – took her picture and sent it to my brother. My brother and the young girl are now married with a child."

Interestingly, the survey also revealed the particular role of mobile phones as a source of distraction and amusement. A majority (78%) of respondents said that they used their mobile phones to exchange jokes and entertaining messages with their friends and relatives, mostly during evenings. Jokes circulating via mobile phones are mostly of a political or sectarian nature and focus on the humorous aspect of otherwise critical situations.

With curfews in effect in most Iraqi cities – whether imposed by security forces or self-imposed by civilians – going out in the evenings is no longer an option for most young people. A young student explained that it had become difficult to meet with friends, especially after sunset. Whereas this young man used to go to "casinos" (Iraqi equivalent of coffee houses) regularly, he now finds himself confined at home almost every evening and uses his mobile to send messages and keep in contact with friends.

The amusing aspect of mobile phone usage is not only limited to jokes and messages but also encompasses exchanging ringing tones, songs, and pre-formulated lyrical wishes that are either purchased from mobile stores or downloaded off the internet. It is very common in Iraq to send and receive prosaic messages to loved ones on a regular basis.

What is the impact of using mobile phones in Iraq?

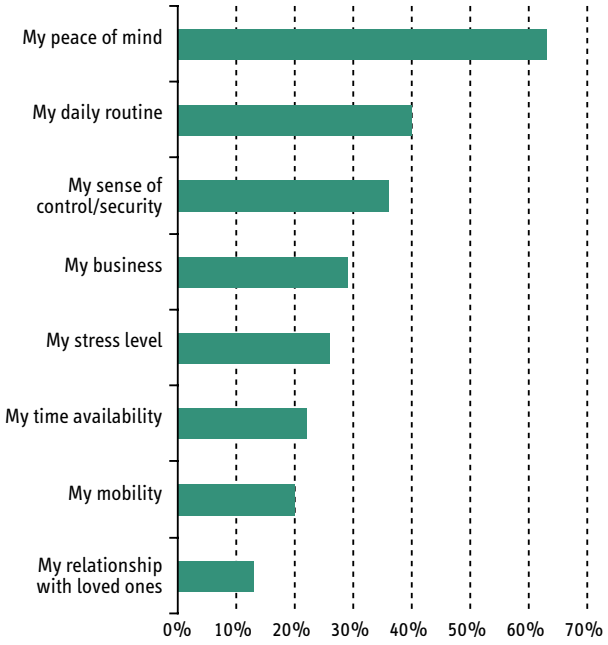
Mobile phones have had an impact on almost all aspects of respondents' lives. Most importantly, it has allowed users to communicate with each other where fixed-lines are not available or functional. Not only has mobile communication filled the gap created by a debilitated fixed-line network, it has also contributed to simplifying the daily life of respondents.

Table 4: Impact of mobile phones

	Easier
Communication with family	98%
Act in case of emergency	98%
Communication with friends	91%
Simplifying daily life	91%
Reduces level of anguish when out-of-home	85%
Saving time on visits to family and friends	72%
Saving money on making visits	59%
Communication with business contacts	71%
Strengthening of friendship ties	45%
Strengthening family ties	36%
Having fun/entertainment	36%
Searching for a job	18%

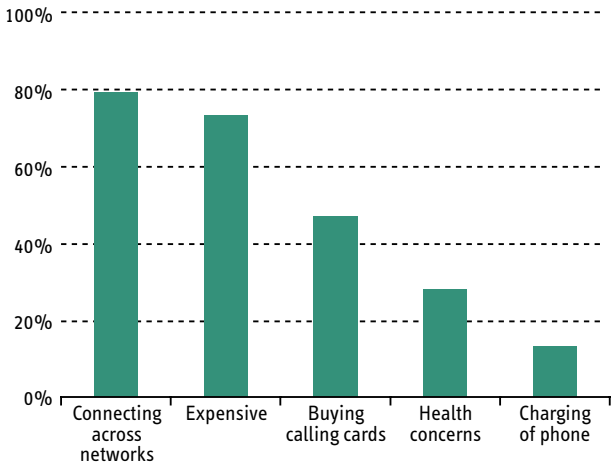
Without a mobile phone, respondents said that they would feel "worried", "anxious" and "lost". For the majority of respondents, loss of mobile communication would have the most significant impact on their peace of mind.

Chart 14: Impact of loss of mobile phones



What are the challenges in using mobile phones?
Respondents face a number of challenges in using their mobile phones. These range from bad connectivity to concerns about cost and issues with calling cards. Despite such challenges, mobile phones are the preferred communication channel for the overwhelming majority (87%) of the sample surveyed.

Chart 15: Challenges in using mobile phones



Seventy nine percent of respondents felt that the weak connectivity across competing service providers was a key obstacle in mobile usage. There are 4 mobile operators in Iraq today: MTC Atheer, Iraqna, Asiacell and Korek (in the Kurdish north). Although the link across the first three operators has improved, many users still complain about the difficulties they encounter in trying to make calls "across operators". In addition, some users complained of weak network coverage (poor signal) and poor reception quality.

Cost, expectedly, was the second most frequently mentioned drawback. A majority (73%) of users said that they found mobile communication expensive; this was especially pertinent across lower income users. According to the study, respondents are, on average, spending the equivalent of US$39 per month on their mobile phones, with the majority spending US$30 per month (median). An indication of how vital mobile communication has become to Iraqi civilians is the fact that 64% of respondents said that they had difficulties in affording their mobile phone expenses but did not give up using their mobiles. Instead, they cut back their spending on other items such as clothes, eating out and entertainment to buy charging cards.

The charging card (pre-paid system) is the dominant form of subscription in Iraq. It is used by an overwhelming majority (96%) of respondents. Almost half (47%) of mobile users interviewed, however, stated that buying calling cards was problematic. A majority (58%) said that they faced out-of-stock situations at points of sale, whereby the US$10 card that they sought (the least expensive) was not available. In such situations, users resorted to purchasing a more expensive card (US$20 or US$30) or to using someone else's phone. Respondents also reported facing problems in activating calling cards with many reporting that some of the pre-paid cards they bought were deficient.

A minority of users surveyed expressed concerns about health related issues. As for loss of "privacy", it was clear that this was not an issue for most users. Even when specifically asked whether having a mobile phone had led to receiving calls at inconvenient times, a majority (59%) responded that it had not.

Finally, it was important to assess how the widespread electricity shortages were affecting the charging – and consequently the use – of mobile phones. Electricity across Baghdad, Basra and Najaf is supplied intermittently, with most households having access to less than 12 hours of power per day. In fact, 44% of respondents surveyed had access to 8-12 hours of power, whereas 42% suffered even harsher rationing with access to 4-8 hours. Under such conditions, it would have been expected that respondents would find it difficult to keep their phone batteries charged. However, this was not the case across the urban sample surveyed since most households were resorting to alternative power supplies. Eighty three percent of respondents had access to power from a community generator and 54% owned small generators. During periods of electricity outages, most respondents were thus able to charge their phones.

II. Micro-businesses

The objective of this study is to assess how micro-businesses have been affected by the introduction of mobile telephony. The data presented is based on 360 interviews conducted with micro-businesses across four sectors: industry (135), trade (133), services (48) and transportation (44). All micro-businesses surveyed had access to a mobile phone.

Interviews were conducted with individuals responsible for making decisions relating to the communication needs of their companies. By virtue of the size of the businesses surveyed, 98% of respondents were the owners themselves. The overwhelming majority of respondents interviewed were male between the ages of 25 and 45. Most (57%) had completed a technical or university degree and 54% were the heads of their households.

The introduction of mobile phones in Iraq came about at a period when micro-businesses were also in increased need of communication. Respondents stated that since the demise of the Saddam Baath regime, it had become critical to be able to assess prevailing conditions on a daily basis as the "situation" had a huge impact on how they manage their business. Of primary importance was the need to obtain regular updates about security conditions (67%) and particularly about the safety and accessibility of roads (55%). Respondents also highlighted the need for more frequent communication with business parties, namely with customers (43%), office or place of work (37%) and suppliers (27%). For example, a truck driver who transports goods between Iraq and Jordan indicated that he needed to be in continuous contact with other drivers to check road safety and conditions at the Iraqi-Jordanian border. He also needed to be in contact with his customers to update them on his progress.

Prior to the advent of mobile phones, 48% of micro-businesses surveyed had no access to telecommunication whereas 52% said that they had a fixed-line phone. This however was unreliable due to continuous breakdowns, interference and difficulty to call from one province to another. Micro-businesses surveyed were all located in major urban agglomerations where fixed-line penetration is at its highest. In smaller cities and rural areas, the large majority of micro-businesses probably operate with little access to fixed-line phones.

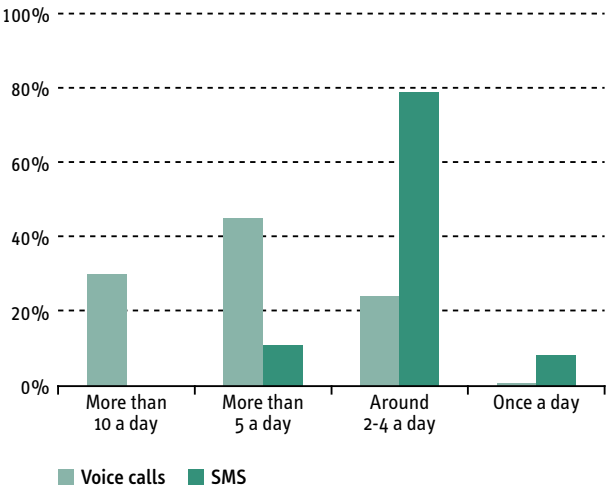
Mobile services have been available in Iraq for over two years. In that relatively short period of time, mobile phones have become essential for the operation of most micro-businesses surveyed. Business owners perceived mobile phones not only as a convenient and efficient means of communication but as a tool that facilitated daily business routines and enabled efficiencies at work. Mobile phones were described as being "practical", "fast", "technologically advanced", "reliable" and "problem solvers". For the overwhelming majority (85%) of business respondents, using a mobile phone at work is a necessity.

Mobile phones offer small businesses a range of benefits that seem to complement rather than substitute those offered by fixed-lines. Micro-businesses that had access to both a fixed and a mobile phone reported using both modes of communication to make voice calls. Survey results revealed that there were distinct usage patterns for each type of phone. In general, fixed-lines were used primarily to contact parties within the same province and to make long calls. Mobiles, on the other hand, were used for emergencies, to call other provinces and to make international calls. Not surprisingly, mobiles were used to contact other mobile numbers, and the same applied to fixed-lines since the connectivity between fixed and mobile networks in Iraq is still weak.

In view of the size of the businesses interviewed, it is not surprising that the overwhelming majority of business owners did not make international calls for business purposes. They did however use their mobiles to call family members abroad.

SMS messaging also seemed to be less used by micro-businesses. The frequency of sending SMS messages was much lower than that of making voice calls with SMS being utilized mainly as a tool to reduce mobile communication costs. The majority of business owners said that they send SMS messages to save money on talking time.

Chart 16: Frequency of using voice calls and SMS



An interesting feature of communication use by micro-businesses was the higher use of e-mail (16%) and internet chatting (13%). Respondents said that they use e-mail to communicate mainly with parties outside of Iraq. Although home/office connections to the Internet are still extremely rare in Iraq, there has been a surge of "Internet Cafes" in major urban centers. Iraqis flood these cafes where connectivity cost is equivalent to US$1 per hour. Interestingly, the micro-business owners surveyed displayed a higher propensity to use the Internet than the individuals surveyed in the community sample. This could be explained by the fact that the business sample is pre-dominantly male (females are less prone to visiting Internet cafes) and economically better off. Business owners, however, made almost no use of other more traditional business communication means like facsimile, postal and courier services. This perhaps is to be expected in a country where most public services are quasi non-operational and traveling by road is hazardous.

The use of mobile phones by micro-business owners spans both personal and business purposes. In fact, survey results revealed that voice calls made were almost evenly split between calling family and friends and calling business parties. On the personal level – and this was reflected in the community survey results – most respondents made regular calls to their parents, wife and children to ensure that they were safe. A tailor said that he called his 14 year old daughter every day at school to make sure that she arrived safely.

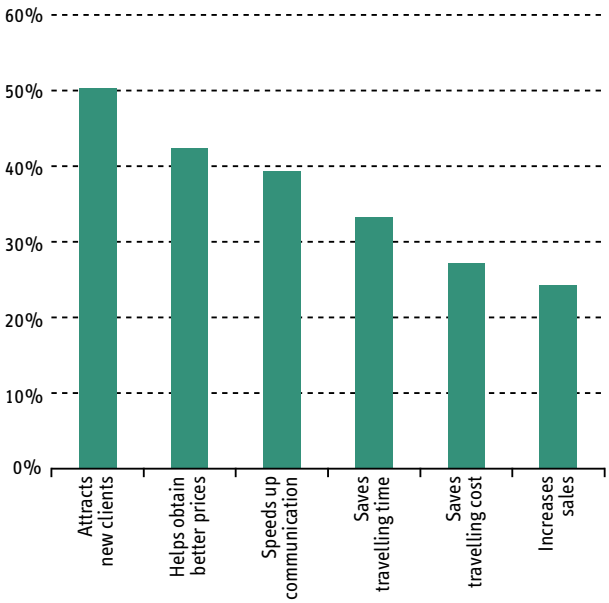
On the business level, customers and suppliers were the key parties contacted via mobile phones. Respondents said that they mostly used their mobile phone to contact their clients (77%) and suppliers (48%). Maintaining communication with these parties is clearly a vital aspect for the survival of the business.

As an example, the owner of a small baqala (grocery store) described how using a mobile phone has drastically improved communication with his suppliers and how this in turn simplified his business routines and increased his turnover. Prior to owning a mobile phone (and with no fixed-line at work), the grocery owner had to make regular visits to wholesalers - located quite a distance from his store – to purchase his supplies. The process was costly, tiring and resulted in him spending a lot of time away from the store. In many cases, the baqala would run out-of-stock on certain items before the new order arrived. Since owning a mobile phone, the grocery owner called his suppliers daily and placed regular orders over the phone.

Mobile phones have positively contributed to the running of all the businesses surveyed. Respondents said that in addition to helping them gain new clients, mobile phones speeded up communication and were instrumental in

obtaining better market prices. An overwhelming 91% of respondents stated that mobile phones were their preferred method of business communication.

Chart 17: Benefits of using mobile phones



A taxi driver in Baghdad recounted how using a mobile phone has helped him gain new customers. As soon as he bought his SIM card, the taxi driver began distributing cards with his mobile number to his passengers. With time, he started receiving calls from previous clients requesting that he picks them up or drives them to their destination. The mobile phone also allowed him to call customers in case of any delays on the road. The driver also pointed out that thanks to the mobile phone he spends much less time sitting idle in his car or driving around dangerous streets to find passengers. Even with the reduction of hours spent at work (due to the situation and not driving at night), he managed to significantly increase his turnover. For this taxi driver, "the mobile phone is now the most important thing for work".

Most significantly, 91% of the respondents surveyed believed that using a mobile phone had improved the profitability of their businesses. Respondents explained how mobile phones made it easier to obtain better prices, expand the range of services/products on offer and boost revenues. Since owning a mobile phone, a small restaurant owner started operating a take-out service. He now receives orders for special feasts and occasions, thus almost doubling his turnover. A spare parts dealer also indicated how through the mobile phone he follows the daily Iraqi Dinar/US$ exchange rate thus minimizing his currency risk and negotiating better prices with his suppliers.

Date Merchant

"I buy and sell dates and my whole business is now dependent on the mobile phone. Trading in dates (like any other commodity) is a risky business characterized by significant price fluctuations, especially during the harvest season. Prior to having access to a mobile phone, I faced great difficulty in obtaining timely information about price variations. This delay in obtaining up-to-date prices sometimes resulted in significant losses, whereby I would sell a lot of dates at a low price. Since I bought my mobile phone, I am in continuous contact with the date trade exchange center which helps me strike deals at the right price".

Table 5: Activities made easier by using a mobile phone

Contact with family	97%
Act in case of emergency	96%
Find new business opportunities	95%
Communicate with clients	93%
Obtain information about roads	92%
Simplify daily routine	86%
Place orders	85%
Obtain information on cost & availability of goods	78%
Save time and money on visits	72%
Obtain information on new products	71%
Have more fun at work	49%
Obtain banking information	46%

The mobile phone has also been instrumental in the start-up of many businesses. A female respondent told us how owning a mobile phone has allowed her to set up her own business. For years, this lady worked as a hairdresser at a women's hair salon in Baghdad. Follow-

ing the closure of the business, the young woman found herself unemployed for over 8 months, with no means to open up her own salon. However, with the availability of mobile phones, it became possible for her to operate as a freelance hairdresser visiting clients at their own homes. She says that she can be reached anytime thus ensuring that she gets reservations and maximizes the number of clients she services every day.

Winning tender

"I am a dealer in car spare parts. Running the company before the advent of mobile phones was very difficult. The lack of communication means affected my sourcing of supplies which in turn had a negative impact on my business. Through the mobile phone, I can now contact my suppliers regularly and order the parts I need immediately. Having access to a mobile phone has also helped me generate new business. While reading the local newspaper, I came across an advertisement from one of the ministries whereby spare parts dealers were asked to bid for a huge project. At the bottom of the advertisement was a mobile number to call for enquiries. I called the number and obtained the necessary information to submit an offer. After a while, I was contacted – via my mobile phone – and informed that I have been awarded the contract. This deal led to other similar deals and has boosted my business significantly."

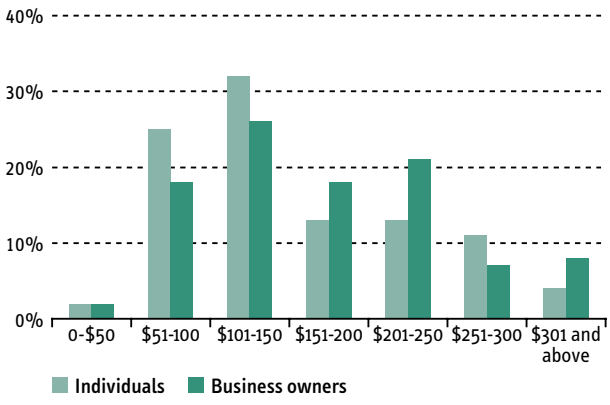
Whereas it is obvious that mobile phones have become an intrinsic part of the economy in Iraq, the service is perceived to have two key disadvantages. Similar to the complaints collected during the individual interviews, business owners criticized the fact that mobile calls are difficult to make across different operators (74%) and that mobile communication is too costly (72%).

As a result of the connectivity problem across operators, and since mobile phones have become so vital, some business owners have resorted to owning mobile subscriptions with more than one operator. More than one in five (22%) of business owners surveyed said that they owned more than one SIM card and 17% owned more than one mobile phone. In some cases, mobile users purchased up to 3 SIM cards. A young entrepreneur explained that he had to buy 3 SIM cards (one from each operator) and that he changed cards depending on the number he is calling. For example, he used his MTC Atheer SIM card to call an MTC Atheer number and then replaced this with his Iraqna card to dial an Iraqna number. This trend is temporary and will most probably subside as mobile telephony develops further in Iraq.

On the cost side, survey results indicate that on average, micro-business owners spend an average US$45 per month on their mobile phone, of which around half is related to their business. This amount is nevertheless minimal when compared to monthly business expenditures. Respondents said that they spent an average of US$690 on their businesses every month. Mobile communication thus accounted for less than 5% of total business-related expenditure.

The survey results showed that business owners purchased more expensive mobile handsets than individual users and upgraded their units more frequently. Almost half (49%) of business owners had changed their phones at least once during the past 18 months compared to only 27% for the community survey. The main reason for purchasing a new phone was to acquire a more recent model with additional features and accessories.

Chart 18: Price of mobile phones



Conclusion

Mobile phones have attained almost human proportions in their value to Iraqis. Perceived often as a family member or a close friend – associations that surpass the functional – they are playing a vital role in present day Iraq. Survey results reveal that mobile phones have had a major positive impact on how Iraqis live, cope and manage their businesses; they are undoubtedly one of the few tangible developments that have improved civilians' lives in recent years.

Whilst Iraq undergoes a period of difficult transformation, civilians continue to suffer from a quasi-total breakdown in infrastructure. Yet the survey highlights Iraqis' critical need for communication as they subsist in this extended war zone with no clear demarcation lines. With the unreliability of the fixed-line system as an alternative means of communication, mobile phones in Iraq are providing civilians with a fast and reliable means to stay in of touch; one that they can depend on in all situations.

Mobile communication has, in a span of two years, achieved an impressive 12.3% penetration rate. Almost one in seven Iraqis owns a mobile phone and this, in a country where GDP/capita is in the range of US$600. This suggests that mobile communication has crossed most social and economic barriers to become a communication channel accessed by a large segment of the population.

Mobile phones are valued mostly because they provide "peace of mind". Iraqis resort to their mobile phones primarily to remain in constant contact with their loved ones and to be assured of their safety. By offering users the opportunity to obtain timely information on the prevailing situation and also allowing them to remain in contact while they are outside their homes, mobile phones are also offering users a desperately needed sense of control and security. Another key benefit of mobile phones in Iraq is their crucial role in helping the population deal with daily emergencies: they provide users with immediate contact and thus reduce emergency response time. It is not surprising that against such a background, Iraqis perceive their mobile phones as a necessity – a tool that is vital for "surviving" the chaos that plagues their country. Users in the three cities surveyed – Baghdad, Basra and Najaf – have exhibited similar attitudes and usage patterns, suggesting that the insecurity "psyche" is not limited to Baghdad but has permeated individuals' lives in less turbulent and arguably safer cities.

The less vital benefits of mobile technology, such as facilitating contact with family and friends and strengthening friendship ties have also been visible in Iraq. However, they have been relegated by respondents to a secondary level. Mobiles have even had an impact on the fun aspect of Iraqis' lives; they are widely used by youth as a source of entertainment.

From a business perspective, mobile phones are playing a major role in supporting the emergence and development of the micro-business sector. Most micro-business owners surveyed had no access to telecommunication prior to owning a mobile phone. Through mobile phones, they have been able to grow their business and in some cases, start new ones. Mobiles have allowed business users to source their supplies in a more efficient and timely manner. They have also helped gain new customers and increase turnover. By making it easier to obtain critical market information, mobile phones have also helped users to compete in a more effective manner. All these benefits have resulted in making micro-businesses more profitable and hence a key stronger driving force for the new Iraqi economy.

The impact of mobile phones in Iraq today is a unique case of introducing a key technology at a time when it is needed the most. As the situation in Iraq evolves, so will the usage and impact of mobile phones. This survey has demonstrated that, in the meantime, mobile phones in an Iraq at war is a clear story of technology at the forefront of assisting humanity.

Notes

[1] Source: Zawya

[2] Source: UN-ESCWA figures

[3] Assuming children under 15 are not mobile owners

[4] Source: World Bank, Country Brief (2003)

[5] Callers who made more 5 or more voice calls per day

[6] Callers who made less than 5 voice calls per day

V:
MENA Survey by ACNielsen

Marios Mavros

Senior Research Executive
ACNielsen

Survey

Introduction

This survey looks at the impact of the mobile industry on community relations and development of micro-business environment, providing an overall impact assessment of the sector in the rural areas of the Gulf, the Levant and the Maghreb.

The Middle East North African (MENA) region is currently experiencing its boldest period of development in decades. Record high oil prices are greasing the wheels of technological advancement and economic prosperity is set to follow. This survey illustrates six of the region's success stories, and exposes that their achievements are not just due to rising global windfalls or geological advantage, but result from each government designing a coherent and effective policy targeting the mobile sector.

Moreover, mobile telephony is growing so fast it is able to exceed fixed-line penetration and service facilities in more remote areas. Consequently, developments stemming from the mobile sector have also contributed to bridging the gap between urban and rural areas. While urban areas tend to disproportionately benefit from economic growth in general, and from technological developments in particular, the survey shows that the number of mobile phone subscriptions rose equally in both areas. In helping to bridge technology gaps and improving the transfer to information and communication between communities, the mobile telecommunications industry can drive both social and economic development, in turn helping the overall integration and development of society.

Research Methodology

As mentioned above, the study involves two sections and aims at assessing the social and economic impact of mobile telephony. To cover the two aspects of the study, interviews were carried out in rural areas in the following countries with the respective sample structures:

Country	Sample size
Community interviews	
Saudi Arabia (rural areas around Riyadh & Abha)	200
Morocco (rural areas around Fes & Oujda)	200
Lebanon (rural areas around Tripoli & Jazzin)	200
Micro Business interviews	
Bahrain (rural areas around Manama)	20
Jordan (rural areas around Al Mazra'ah)	30
Tunisia (rural areas around Beja & Jendouba)	30

For the purpose of this research, the definition of a rural area was settlements, encircling the specified cities, with no more than 5,000 inhabitants.

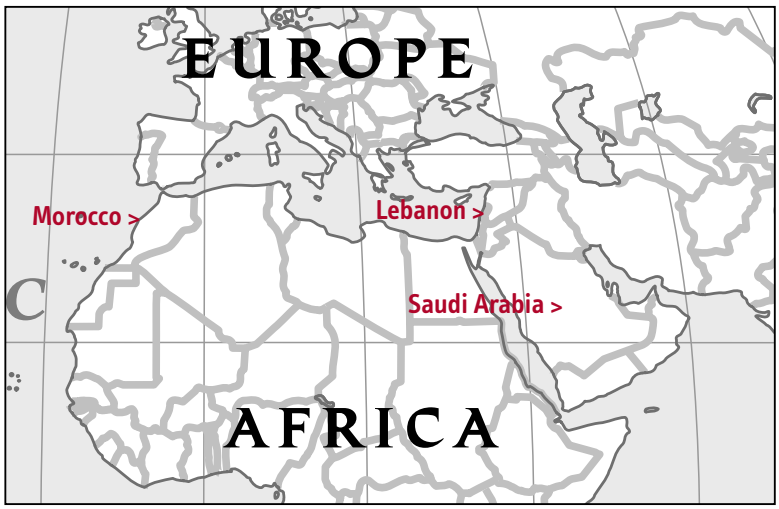
For the community survey, interviews were conducted with adult owners/ principal users of mobile phones.

For the business section, interviews were carried out with General Managers or executives responsible for taking decisions regarding the buying / assigning mobile phones to company employees. The companies were of small size (1-5 employees) in the following sectors:

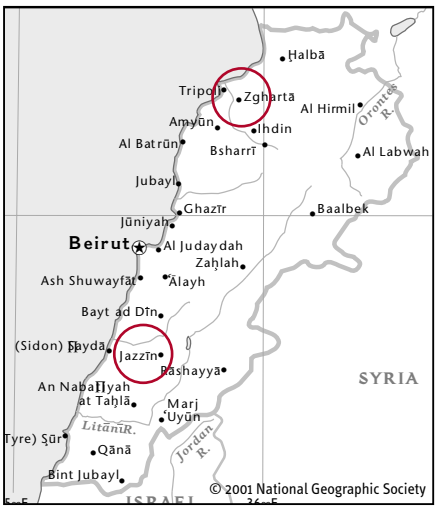
- Agriculture
- Retail Trade
- Construction

In Bahrain, no interviews were conducted with companies from the agriculture sector.

Findings: Rural Community Survey



MENA Region



Lebanon

Morocco

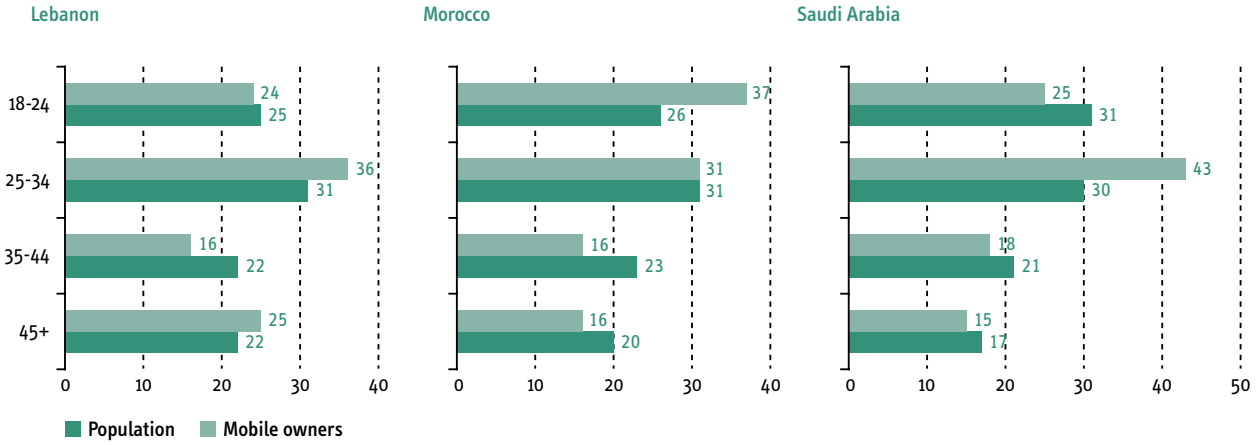
Saudi Arabia

Profile of Mobile phone users

The first part of the survey focused on assessing the social impact of mobile phones on small communities, located in the rural areas of Lebanon, Morocco and Saudi Arabia (KSA). A total of 619 interviews were conducted across the three countries, with owners or principal users of mobile phones. The aim was to interview both genders in all countries. However, this proved to be a difficult task to undertake in Saudi Arabia, especially since the study was confined to rural locations where religious traditions are strictly upheld. Therefore, the gender profile of the sample undertaken was as follows:

	Males	Females
Lebanon (n=200)	50%	50%
Morocco (n=200)	69%	31%
Saudi Arabia (n=200)	100%	-

Mobile phone penetration is rather high in Lebanon and Morocco, among both genders, despite the fact that only 31% of the sample interviewed in Morocco was females. Recruitment of female respondents in rural areas of Morocco proved to be more difficult than recruiting male respondents, also reflecting on the sample structure of the survey.



In regard to age distribution, only adult users between 18-60 years old were contacted. There are variations among the three different countries in the distribution of age, however what should be noted is that more than half the population in each country belongs to the 18-34 age group (56% in Lebanon, 57% in Morocco and 61% in KSA). However, the results of the survey indicated that three out of five mobile phone users/owners belong to the 18-34 age group, a ratio even higher than the national age distribution mentioned above. In Lebanon 60% of mobile users are aged 18-34, while in Morocco and Saudi Arabia this figure reaches 68% for each. This indicates the popularity of mobile phones among the younger part of the population.

Mobile phones have existed in the three countries for few years now, and it seems that the majority of respondents have not wasted their time to start using them. The average respondent in Morocco and KSA has been using a mobile phone for four years, compared to five years for Lebanon.

Length of usage is directly affected by the age of the respondent, as the results showed that the older a respondent, the more years has he/she owned or used a mobile. There is no real difference among genders, as both males and females have been using mobile phones for the same length of time (in Lebanon and Morocco).

Figure 1: Length of time using a mobile phone

	Av. No. of years
Lebanon (n=200)	5
Morocco (n=200)	4
Saudi Arabia (n=200)	4

Probably the greatest variation among the countries surveyed lies in the type of subscription used. Morocco is exclusively a prepaid market. Predominantly, Lebanon is also a prepaid market, however 15% of respondents use a postpaid subscription. Saudi Arabia on the other hand is primarily a postpaid market, with 62% users.

There are significant differences in the profile of postpaid and prepaid users in both Lebanon and KSA. More specifically, postpaid usage in Saudi Arabia is considerably higher among respondents aged 25-60, in comparison to users aged 18-24. Furthermore, the findings indicate that all respondents aged 46-60 in Saudi Arabia are postpaid users. As for Lebanon, the same picture is apparent: users aged 18-30 are exclusively subscribed to a prepaid service. Additionally, results show that prepaid subscriptions are more popular among females in Lebanon, registering 92% subscription, as opposed to 79% with males.

Figure 2: Subscription type used

Base: all respondents (n=200)	Lebanon	Morocco	Saudi Arabia
Post paid	15%	-	62%
Pre-paid	85%	100%	38%

Among prepaid users, Lebanese face the least issues with acquiring recharge cards, with only 3% facing some difficulties. In Morocco and KSA though, more than a quarter of respondents declared that at least some difficulty is faced in obtaining recharge cards for their phones.

The vast majority of respondents facing these difficulties reside in areas where availability of mobile providers and prepaid card outlets is scarce. In Morocco, respondents have resolved such issues by traveling to nearby city centers in order to purchase the recharge cards. This countermeasure is used in KSA as well, in addition to purchasing more than one recharge card at a time when the opportunity arises. Hasan from KSA specifically mentions:
"When my card runs out, I ask a friend to buy a recharge card for me from the city center. However this requires traveling and it is not always convenient, for example when weather conditions are bad."

Facing these difficulties may provide a motive for Saudis to subscribe to a postpaid line instead of a prepaid – probably being one of the reasons explaining a higher subscription to postpaid. Nevertheless, prepaid card accessibility cannot be the sole reason for such behavior.

Figure 3: Pre-paid card accessibility

Bottom 2 boxes Base: Respondents who use pre-paid cards	**Lebanon**	**Morocco**	**Saudi Arabia**
With some difficulty (2)	2%	14%	28%
With a lot of difficulty (1)	1%	13%	1%
Mean scores	3.9	3.2	3.1

Reasons for owning a mobile phone

Communication facilitation is the main reason for purchasing a mobile phone. This has been conveyed by all the respondents in the countries surveyed. In Morocco and Saudi Arabia, communication with the family is the primary reason for buying a mobile, supported by more than 50% of respondents. Continuous communication is essential, as respondents declared the need to check on their parents or children at anytime. It seems that there is a feeling of insecurity if detached from the family, which dissolves with the opportunity for continuous communication through mobile phones.

"I need to exchange calls with my parents and children continuously, in case they need me..." Alaa from Saudi Arabia indicated. This was also in line with the most important secondary reason, which was communication anywhere, at anytime. Easy and continuous communication provides the feeling of security required by respondents in Saudi Arabia.

In Lebanon, communication with the business environment is mentioned by 47% as the primary reason for mobile phone usage; however 62% of the sample also mentioned personal reasons as a secondary motive.

Less important reasons stated by respondents in Morocco, are "to communicate with friends" and "to communicate with the business environment". In KSA, some focus has also been placed on cost, as mobile users have declared their preference to mobile phones due to the lower expenses endured.

A respondent in Oujda, Morocco answering questions for the survey

Figure 4: Drivers to purchasing mobile phones

Reasons	Lebanon (n=200)		Morocco (n=219)		Saudi Arabia (n=200)	
	Primary Reasons	Total Reasons	Primary Reasons	Total Reasons	Primary Reasons	Total Reasons
No other communication means	10	17%	-	-	-	-
To communicate with family	4%	9%	56%	85%	53%	72%
To communicate with friends	-	-	10%	37%	-	-
To communicate with business /work	47%	62%	20%	36%	3%	18%
Everybody have one /fashion	2%	6%	-	-	-	-
For emergency purposes	9%	34%	-	-	3%	13%
For personal reasons	17%	62%	1%	5%	-	-
Fast communication /anywhere /anytime	1%	5%	-	-	13%	44%
For international calls /bring people closer	7%	13%	6%	17%	-	1%
Less expenses /cost	-	-	1%	1%	19%	31%
Easy to use /practical /necessary	5%	27%	1%	14%	10%	18%
Other	3%	8%	3%	10%	4%	6%

Usage patterns

Usage purposes and frequencies

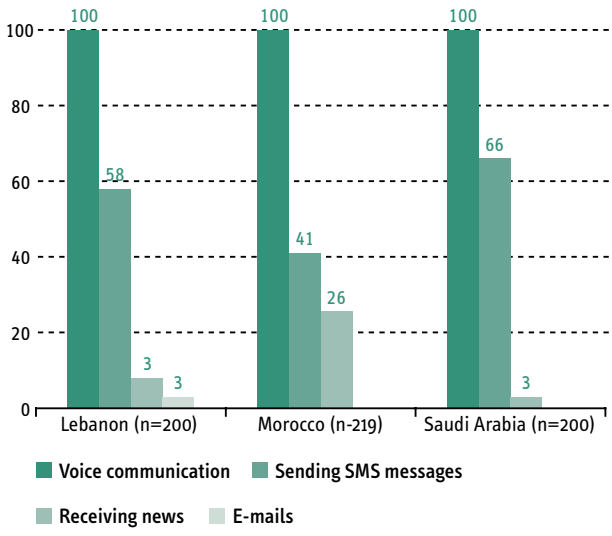
All respondents in all three countries use Voice Communication. SMS messaging is also a popular function of the mobile, with the highest proportion of users located in KSA. However, at least two out of five people in Morocco and around three out of five respondents in Lebanon use SMS messages.

The SMS is used when respondents would like to save money or credits that would otherwise be spent via Voice communication. Also, SMS messaging is very helpful and practical for around one third of respondents in each country who use this function in order to alert other parties of their intention to communicate. However, the SMS message may not be just used as an alert, but may also carry a message requesting the other party to call back, which is another way for mobile users to save credit when necessary.

The main users of SMS proved to be the younger aged respondents, primarily aged 18-24, who had significantly higher incidence than the other age groups. This age bracket tends to use the mobile phone and its functions in more unconventional ways than older respondents.

In Morocco, 25% of respondents surveyed also use the mobile phone as a means to receiving news, a habit which is much less popular in the other two countries.

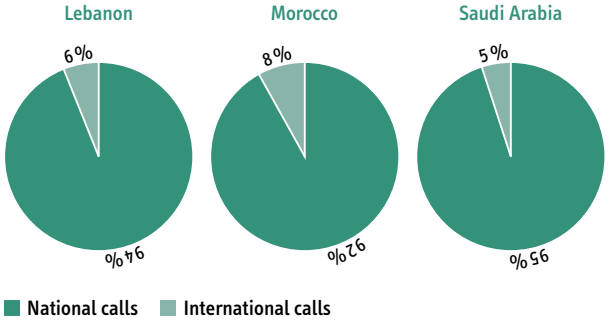
Figure 5: Mobile phone usage purposes



Communication in all three countries is almost exclusively focused on national calls. Morocco has the highest percentage of international calls, with 8% of respondents. The countries to which most of these international

calls are directed to tend to be in close proximity to the caller's country. The exception is Lebanon where there is no clear destination for international calls. On the contrary, for Morocco, 60% of respondents call France, while Saudis call Egypt, Kuwait and Syria with 39%, 24% and 22% respectively.

Figure 6: Number of national versus international calls made

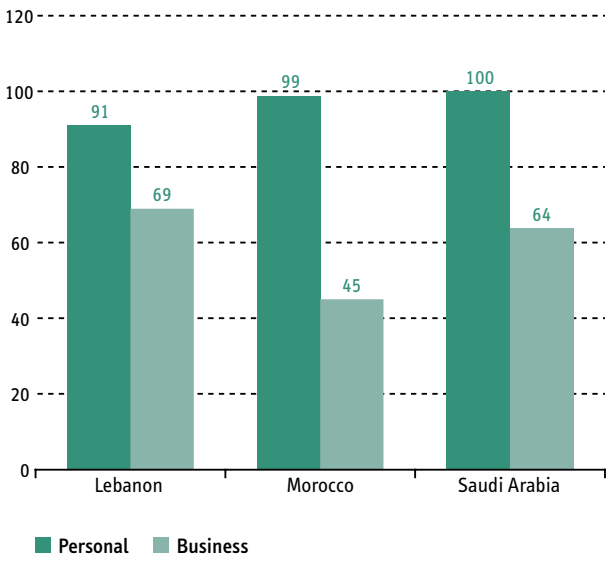


Popular calling times and destinations

The majority of respondents typically use their mobile phone for personal calls. A very high percentage also utilizes their mobile phone for business calls, with Lebanon showing the highest tendency in this attitude with 69% incidence. In Lebanon and Saudi Arabia, a significantly lower number of respondents aged 18-24 use their mobile for business calls, since this is a habit of the older age groups. Furthermore, there is a much higher tendency among males in Lebanon to use their mobiles for business (87%), than among females who use it more for personal purposes (96%). At a lesser extent, this is also the case in Morocco, where 66% of males use the mobile for business calls as opposed to 10% of females.

Business communication tends to happen in the morning, while the majority of personal calls take place in the evening. Results indicate that the exception to the rule is Lebanon, where respondents declared there are no specific times for personal calls.

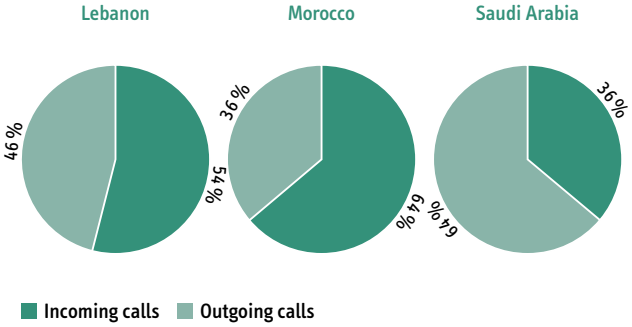
Figure 7: Types of calls



However, not all calls are outgoing. What is interesting is that the average respondent in Lebanon mentioned that 54% of their calls are incoming, while in Morocco the average respondent stated that 64% are incoming rather than outgoing. On the other hand, people tend to make more outgoing calls (64%) in Saudi Arabia.

In the case of Morocco, results show that there are significant differences between gender and incoming/ outgoing proportion of calls. Incoming calls are significantly higher among the female population as opposed to their outgoing calls (74% and 26% respectively). Males also tend to receive more incoming calls, however the gap with outgoing communication is smaller, as incoming represents 59% of calls.

Figure 8: Incoming calls versus outgoing calls



Outgoing mobile calls are generally made to other mobile phones, rather than fixed lines. Respondents in Lebanon and Morocco direct eight out of ten calls to mobile phones, while in KSA the same applies to seven calls out of ten.

Personal calls

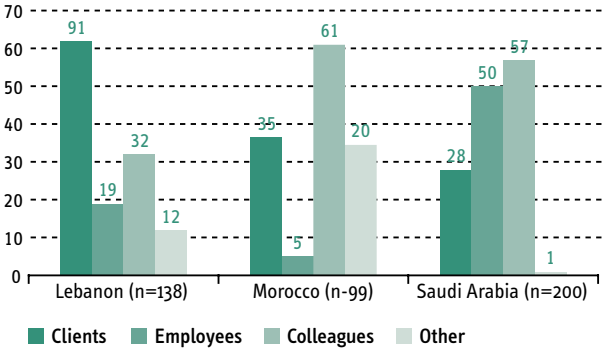
What is interesting to analyze is who the respondents tend to call in each of the three countries surveyed. In Morocco, the majority of respondents stated they call their siblings most often. Sisters receive calls from 49% of respondents, while brothers are called by 48%. Mothers and fathers are also contacted by 29% and 22% respectively of Moroccans surveyed. In KSA, where the sample was solely male, 65% of interviewees call their friends, while 62% and 61% call their fathers and brothers respectively.

Lebanon tends to have a bigger and more even spread of calls across the circle of contacts. But the Lebanese show a propensity to communicate with those closest to them. Thus the highest tendency recorded, with 38% of respondents saying they call either girlfriends or boyfriends. This tendency is stronger among the younger age groups. On the other hand, the second highest destination is husbands and wives, as stated by 29% of respondents. Logically this trend is higher among the older age groups.

Business calls

For their business calls, clients take the lion's share of calls in Lebanon with 62% of the calls. In KSA and Morocco however, colleagues are the ones being contacted most often, with 57% and 61% of responses in each country respectively.

Figure 9: Business calling destinations



Other ways in using the mobile phone

The usage of the "missed call" is popular in the community part of the survey. A significant number of respondents from all countries mentioned that they use the missed call. More specifically, this is the case with 54% of respondents in Morocco, 53% in Lebanon and 40% in KSA. As was previously mentioned, results have indicated that the younger generations are the ones seeking out new means and purposes for mobile phone usage. This is also evident with the "missed call". In all three countries surveyed, the number of respondents aged 31-60 tend to use less the missed call than those aged 18-30. This phenomenon is at its most extreme among Lebanese respondents.

Furthermore, there is also gender differentiation. Female respondents tend to use the missed call more than the males. In Morocco, 59% of female respondents use the missed call as opposed to 51% males. Moreover, the gap is even greater in Lebanon as 64% of female respondents use the mobile in this manner, as opposed to 41% of male respondents.

The purposes for which the missed call is used vary. The main reason is to save money or in case there are not enough credits on the card to make a call. This is mentioned by the vast majority of respondents in each country, who also leave a missed call if they need the other party to call them back.

However, missed calls are not used merely as an alert to

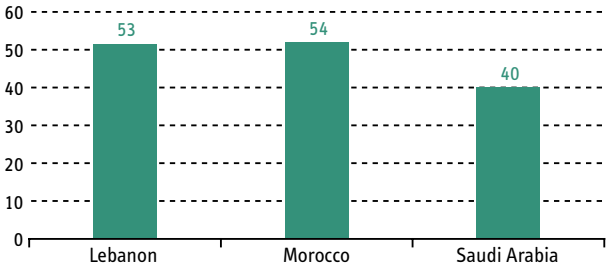
other parties. Respondents have mentioned that there can also be emotional connotation to leaving missed calls. Kibal from Morocco specifies:

"Sometimes I might leave a missed call to my loved ones, when I know they cannot pick up the phone, just to let them know I am thinking of them".

In Lebanon, 20% of female respondents mentioned that they use the missed call "just to say hello". Moreover, missed calls have also been part of arrangements between contacts, where the missed call can be used as affirmation of a deal. Michelle in Lebanon mentions:

"If I have an arrangement with a friend, we have an understanding that a missed call means confirmation".

Figure 10: Missed calls Usage



Yes use mobile phone to leave missed calls

Mobile phone impact on respondents' lives

Advantages and Disadvantages of using mobiles

Advantages

Respondents have attempted to utilize the mobile communication channel to the maximum possible level for their social requirements, whether these would be personal, family oriented or associated to friendships. These of course were not the only requirements of respondents.

The benefit mentioned the most by respondents in all three countries was that mobile phones offer the ability to communicate with family and friends at anytime. This was also the most important benefit mentioned in Morocco (44% of respondents) and KSA (59% of respondents). Awad from Lebanon mentions specifically:

"If I will be late at night to go home I use my mobile to inform my parents so they will not be worried".

However, in Lebanon, the three most important mentioned benefits were nearly at par with each other. Respondents in Lebanon considered that the ability to make business calls at anytime was the one benefit which enhanced their lives the most. Besides round the clock communication with family and friends, which is the second most important benefit, Lebanese also value the fact that mobiles allow them to have telecommunication at anytime when they are outside the house or when traveling. A respondent from Lebanon elaborates:

"I travel a lot to other cities so I am out of the house often. I can take the mobile with me anywhere in case people need to call me."

For Moroccans, another benefit of the mobile phone is its ability to bring people closer, while in Lebanon and KSA it has also given people a sense of security for cases of emergencies.

All the above statements show the sense of protection the mobile phone provides, and the continuous connection to the social – be it friend or family – but also the business environment.

Figure 11: Most important benefits using a mobile phone

Important benefits	Lebanon (n=200)		Morocco (n=219)		Saudi Arabia (n=200)	
	Most important	Total most important	Most important	Total most important	Most important	Total most important
Brings people closer	-	-	19%	39%	-	-
To communicate with family /friends at any time	21%	64%	44%	86%	59%	87%
Available with me at any time / easy to carry when travel	20%	47%	3%	6%	11%	28%
For business calls	23%	37%	10%	29%	-	-
No other means to communicate	-	-	5%	5%	1%	1%
I can receive news /information	-	1%	5%	17%	4%	11%
It is beneficial for different occasions	-	-	9%	19%	-	-
Control of communication /expenses	12%	20%	-	-	1%	3%
It makes communications easier /practical	1%	2%	1%	2%	2%	5%
Fast communication	-	-	-	-	9%	15%
Useful in emergencies	14%	47%	-	-	10%	27%
Other	12%	40%	4%	15%	6%	28%

Disadvantages

Generally respondents were quite satisfied with their mobile phones with 57% of respondents in Morocco, 33% in KSA and 24% in Lebanon stating that mobile phones have no disadvantages. However, there were some issues that were expressed.

In Lebanon – the country where respondents cited the most disadvantages – 51% of respondents indicated that their main concern were the high expenses that come with the use of mobile phones. This was also a concern expressed by 15% of Saudis. However, the main disadvantage expressed by 21% of respondents in both KSA and Morocco was that through mobiles, other people can "tease" or create disturbance.

Owning a mobile phone can also lead to receiving calls at inconvenient times. This was the belief of 50% of respondents interviewed in Morocco. The interesting part is that this belief is significantly higher among the younger aged respondents, between 18-30 years old.

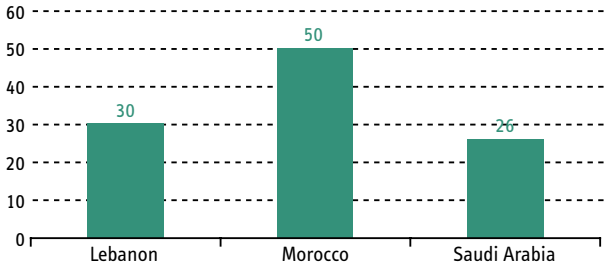
In KSA and Lebanon, 26% and 30% of respondents, respectively, believe that by owning a mobile phone they will receive calls at inconvenient times from their circle of contacts. However, there were no differences among the different age groups in the case of these two countries.

These are examples of what some respondents stated:
"I will receive calls late at night or when I am resting"

"People may call me during a critical situation when I cannot accept any calls"

"People may call the wrong number and this can be disturbing"

Figure 12: Expectation of receiving calls at inconvenient times



Aspects of life made easier via the mobile phone

To evaluate the true impact of mobile phones on the lives of respondents, a comparison between life before and after the mobile phone was made. In majority, all three countries experienced a positive impact of mobile phone usage, indicating different aspects of life that were made easier through the introduction of mobiles. Noticeably, results indicated very few respondents who experienced negative effects caused by the use of mobile phones.

According to respondents in Morocco and KSA, communication with family and relatives was the most positively affected aspect of life. In Lebanon, the main improvement was that mobiles can be used quickly and easily in cases of emergencies. The difference with Lebanon and the other two countries is that mobile phone calls are considered expensive, therefore, it cannot be solely used for frequent and lengthy communication with family and friends. It is used more often for short calls, in times of need or emergencies as the following table demonstrates. Results also indicated that fixed line usage among Lebanese people was higher than in Morocco and KSA, since respondents from the two latter countries resorted to face-to-face visits in the case of KSA, and to public phone usage in the case of Morocco. Consequently, with the introduction of mobile phones, the improvement to everyday communication was imminent for KSA and Morocco.

Figure 13: Mobile phone influence on life aspects

"Aspects made easier"	Lebanon	Morocco	Saudi Arabia
Communication with family /relatives	60%	94%	95%
Communication with friends	62%	81%	93%
Communication with your business environment	51%	44%	63%
Act in case of emergencies	89%	78%	93%
Search for jobs /other business opportunities	10%	15%	12%
Save money on visiting friends /relatives by car /bus / airplane	23%	67%	29%
Save money on visiting other people by car /bus/ airplane for any purpose	21%	58%	23%
Allowing family to have continuous contact with you	63%	88%	76%
Obtain market information, relevant to your business	22%	14%	15%
Obtain banking information	8%	1%	17%
Obtain weather information	2%	1%	3%
Keep informed about family, friends and relatives	61%	89%	81%
Keep informed on social events	21%	90%	45%
Obtain info on entertainment	11%	5%	3%
Obtain info on education	9%	4%	4%
Stay informed on health issues	28%	5%	2%
Receiving news	26%	52%	10%

Respondents mentioned specifically that mobile phones allowed for easier contact with family, relatives and even friends because communication could be initiated easily at anytime and whenever needed. Fatiha from Morocco said:

"Mobiles have made it easier for me to receive news from my family at anytime".

Mobiles have also made two-way communication possible. Respondents stated that owning a mobile phone has made it easy for their families to keep contact with them, in order to receive news.

Regarding emergencies, respondents mentioned that mobile phones provided speedy solutions to problems, with no limitations of time and location. Respondents added that anyone is reachable in case of emergencies with the mobile phone, thus providing a feeling of security for the users.

For Moroccans, the mobile phone has allowed them to save on traveling costs, as now being closer to their circle of contacts is only a phone call away. By using the mobile phone, face-to-face visits via long travel were reduced.

Additionally for Moroccans, being informed on social events was quite important, whereas Lebanese and KSA respondents were indifferent to this aspect. Moroccans however, specified that through the mobile phone they could call the desired party during special occasions without having to travel.

Expected effects on life by mobile phones

When asked how they expected mobile phones to affect their lives on different aspects, respondents provided both positive and negative remarks. In all three countries, mobile phones are expected to enhance and strengthen friendships. This feeling was highest in Morocco, were 78% of respondents expected this, followed closely by 75% of respondents from KSA. In Lebanon the same was stated by 58% of respondents. However, this positive prospect was surpassed by a negative one: 71% in Lebanon believed that mobile phones will increase expenses. This was also an issue in Morocco and KSA, as this statement ranks second highest in each of these countries.

A significant portion of respondents in each country also felt that mobile phones will simplify their daily routine. In Lebanon, respondents primarily believed that it will support their professional activities – again showcasing the trend that Lebanese use more often their mobile phone for business purposes.

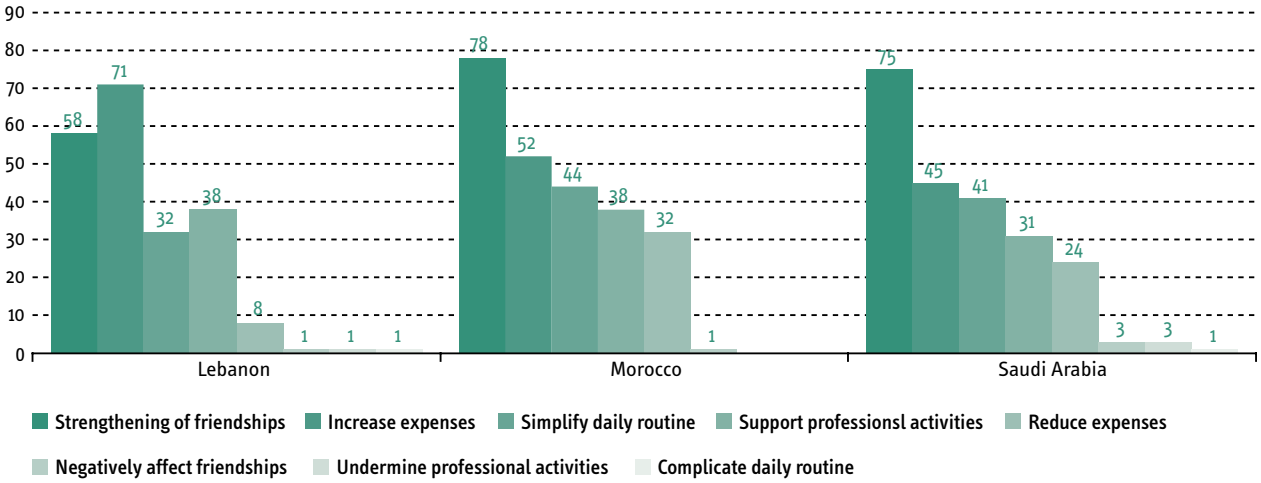
But how are these effects expected to occur?

In strengthening friendship relationships, respondents supposed that the ability to keep continuous communication with their companions will help them stay in touch by sharing news and arranging meetings. Pascal from Lebanon specified: "the mobile helps to solidify personal relationships, especially when distances are a problem".

In supporting professional activities, mobiles have been deemed ideal for fast solution to problems that do not require the physical presence of the user. Thus, according to respondents, mobiles simplify job processes that involve employees, colleagues or clients.

The only negative aspect of mobile phones is that respondents expect their expenses to rise. Respondents find call charges to be expensive. However, in Morocco and KSA, respondents also expect traveling costs to drop, therefore creating a cost counterbalance, whereas in Lebanon there is no feeling of counterbalance for the cost of telecommunication. The compensation to an increase in expense is solely balanced by the benefits behind owning a mobile phone, which for the moment are more than enough for current mobile users.

Figure 14: Mobile phone effects on life



Practical problem areas

Besides the emotional benefits and monetary qualms, mobile phone users also face practical problems linked with mobile phone usage. The least troubled respondents were the Lebanese, were 76% mentioned that no inconveniences regarding mobile phones are experienced in their area of residence. Trouble free usage is also encountered by 44% of respondents in Morocco and 24% in KSA.

The most common inconvenience faced is network coverage. This was an issue that an astonishing 70% of respondents from KSA have to deal with. KSA respondents declared that whenever the rush hour is on, the network becomes very weak due to poor coverage in the area. This of course causes interruption in calls and affects communication mostly with friends and family. In Lebanon, respondents stated that if a communication breakdown was to occur, this will result in missing important or urgent calls.

An issue more specific to areas in Morocco is the lack of electricity or power cut problems. This is a phenomenon that has more damaging effects as respondents said that the mobile battery will remain empty and their mobile phone switched off until electricity is available. Respondents have mentioned that on occasion, they have given their drained mobile phones to relatives traveling to nearby locations with no electrical problems to have their mobiles recharged and ready to use again.

Figure 15: Inconveniences faced in area of residence

Base: All respondents	Lebanon	Morocco	Saudi Arabia
Electricity Supply (power cuts)	5%	16%	3%
Network coverage	20%	40%	70%
Handset Maintenance	1%	11%	14%
Replacing Handset/Accessories	2%	6%	1%
Nothing	76%	44%	24%

Mobile phone versus fixed line

Fixed line ownership is rather stagnant in the three countries surveyed. Very few respondents who do not currently own a fixed line have possessed one in the past. Nevertheless, Saudi Arabia has the highest ownership of fixed line with 59%, followed by Lebanon with 35% of respondents. In Morocco, fixed line ownership is virtually non existent.

While frequency of fixed line usage has definitely decreased after mobile phones were introduced, it still remains at significant levels, with Lebanon scoring the highest frequency of such usage with two calls per day.

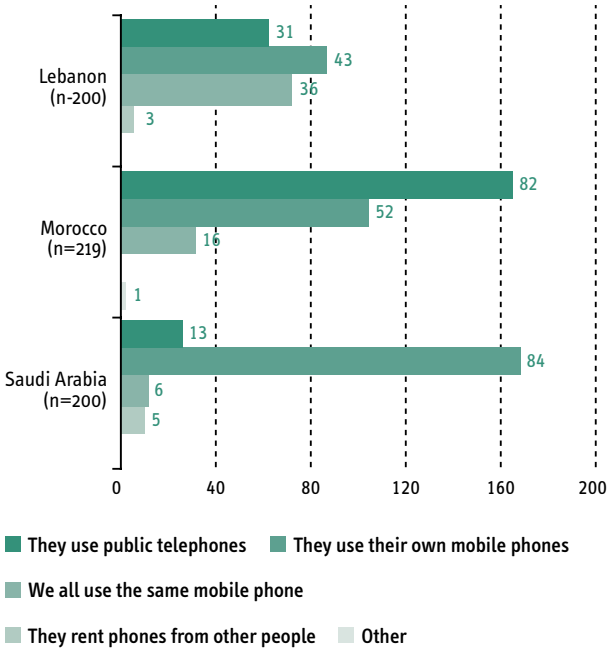
Figure 16: Fixed line frequency of usage

Average Nº of calls	Usage prior to buying phone	Current usage
Lebanon	4 calls /day	2 calls /day
Morocco	1-2 calls /day	Less than 1 call /day
KSA	4-5 calls /day	1 call /day

Respondents who don't own a fixed line stated that other family members use other means for telecommunication. In Morocco, it is obvious that public phones are one of the key methods of communication as 82% of respondents stated that members of their families use public phones for their calls.

High penetration of mobiles is also witnessed, as high percentages of respondents mentioned that their family members have their own mobile phones. This is especially the case with Saudi Arabia where this finding was supported by 84% of respondents.

Figure 17: Telecommunication means used by the family



Occasions using mobiles and fixed lines

Usage habits vary among mobile phones and fixed lines. This was evident from responses received in Lebanon and KSA, whereas fixed line usage in Morocco was too small to provide meaningful results.

Respondents from Lebanon use their mobile to call another mobile phone and use their fixed line to call another fixed line. In KSA respondents said they used the mobile phone when they were out of the house and use the fixed line when they were within their home. What should be noted is that Saudi men spend on average many hours out of the house, starting from early morning till late at night (see Figure 18 on opposite page).

Advantages of a mobile over a fixed line

The main advantage of using a mobile phone over a fixed line, is that mobile phones allow for communication everywhere according to 82% of respondents from Lebanon and 90% from Morocco. This advantage was also witnessed by 52% of Saudis, which added that mobiles provide fast and easy communication to the user (31%).

In general many users were quoted saying: "You are free to do whatever you want with the mobile. It is easy to carry and can take it anywhere."

Furthermore, 27% of respondents in Lebanon mentioned that mobiles, rather than fixed lines, simplify life by providing faster response to issues or problems. However, this is paid for dearly as 58% of respondents also mentioned that the main disadvantage of mobiles is that they are more expensive than fixed lines. This was also mentioned by 17% of respondents in KSA. Slightly more respondents (18%) in KSA and Morocco mentioned that mobiles allowed other parties to call at unsuitable times – a phenomenon usually avoided with fixed lines.

Figure 18: Instances using mobile phones and fixed lines

Base: Current fixed line owners	Lebanon (n=70)	Morocco (n=9)	Saudi Arabia (n=117)
Occasions using mobile phones			
For business needs	13%	11%	-
When I'm outside /during traveling	6%	33%	45%
To call another mobile phone	51%	-	-
I use the mobile most of the time	10%	-	5%
For emergency calls	4%	11%	37%
Communication with family /friends	7%	78%	20%
During the night /in bed	6%	22%	-
Other	5%	11%	3%
Occasions using fixed line			
When I am indoors /when the fixed line is available	14%	22%	36%
To call other fixed lines	64%	-	-
For business purposes	-	-	2%
For long communications	14%	-	-
For personal calls /family /friends	13%	78%	28%
For international calls	4%	-	16%
Other	1%	44%	22%

As was previously mentioned, weak networks are also an issue in Saudi Arabia, making fixed lines more attractive in regards to this issue. However, 50% of respondents also mentioned that acquiring a fixed line in KSA is not an easy task.

In total, the least disadvantages were expressed in Morocco, where 57% of respondents mentioned that mobiles have no disadvantages in comparison to fixed lines. This opinion was shared by 30% of respondents in KSA and 25% in Lebanon.

90% of Moroccans prefer mobile phones because they allow for communication everywhere

Figure 19: Advantages and disadvantages of using a mobile phone

	Lebanon (n=200)	Morocco (n=219)	KSA (n=200)
Advantages			
Communication anywhere in any time	82%	90%	52%
Fast /easy communication	-	14%	31%
Less expensive	4%	9%	2%
Communication with family /friends	4%	6%	11%
To receive news fast	-	5%	1%
Many mobile phone functions	2%	2%	7%
Simplifies everything	27%	-	3%
For emergencies	10%	-	13%
For business purposes	8%	-	1%
For privacy /call identification	10%	-	10%
Saves travel time	4%	-	-
Other	1%	3%	7%
Disadvantages			
Calls at unsuitable time / annoying calls	5%	18%	18%
No network connection	7%	7%	19%
Affects health	8%	6%	11%
Expensive to use	58%	7%	17%
Easily damaged	-	3%	-
Specifying the days when charging is due	3%	-	-
It could be lost	3%	-	-
Battery is empty	2%	-	-
Improper use of the mobile	-	-	7%
No mobile phone shops /no cards available	-	-	5%
Others	5%	2%	5%

Public phones and other methods of communication

Public phone usage is very much dependant on availability of such a service. In Morocco and Lebanon, the vast majority of respondents (91% and 97% respectively) mentioned that public phones do exist in their area of residence. In Morocco, 83% of respondents interviewed declared that they used public phones before purchasing a mobile phone. This number has now been reduced to 63%.

Public phones were rarely used in Lebanon prior to purchasing mobile phones mainly because they have only been recently installed nationwide. The average frequency of usage was one call every two days. Following the purchase of mobiles, public phone usage in Lebanon dropped considerably. The average frequency of usage in Morocco and Saudi Arabia was double that of Lebanon, with respondents making calls via the public phone more than once a day. This frequency is currently at a much lower level, as it was reduced by 67% in Morocco and

92% in KSA. As it was mentioned earlier, respondents in Morocco use public phones the most, currently making approximately one call every two days.

Across all three countries, mobile users find public phones useful when their mobile credits are low, as they perceive them to be more economical than mobile phones.

Figure 20: Public phone usage

Average Nº of calls per month	Usage prior to buying phone	Current usage
Lebanon	13.6	0.6
Morocco	36.3	12.1
Saudi	35.0	2.7

When asked about other means of communication prior to the purchase of mobile phones, face-to-face visits were the main trend in Lebanon (65%) and KSA (89%). While public phone usage prevailed in Morocco with 83% - as previously mentioned - face-to-face visits were the second most mentioned communication method with 51% mentions.

After the introduction of mobile phones, respondents reduced the frequency of usage of all other communication habits. Face-to-face visits were heavily reduced in Morocco and KSA, however still remaining at high levels for the latter, as 54% of respondents still tend to visit their friends and relatives. A high number of Lebanese respondents also continued to visit their circle of contacts, according to 53% of interviewees. Fixed line communication had also dropped, by as little as 15% in Lebanon and 9% in Saudi Arabia. This clearly shows that mobile phones have not really replaced fixed line telephony, but simply complemented its inabilities or weaknesses.

Figure 21: Means of communication used prior to purchasing a mobile phone and subsequently

Base: all respondents	Lebanon	Morocco	Saudi Arabia
Before purchase of mobile phone			
Letters	1%	13%	14%
Fixed line phone calls	61%	6%	55%
Visits (face-to-face contact)	65%	51%	89%
Hear news from other people	14%	11%	26%
The public phone	3%	83%	-
Other	-	2%	2%
After purchase of mobile phone			
Letters	-	1%	6%
Fixed line phone calls	46%	2%	46%
Visits (face-to-face contact)	53%	19%	54%
Hear news from other people	8%	-	16%
The public phone	-	63%	-
Mobile phone	98%	89%	82%
Other	-	2%	1%

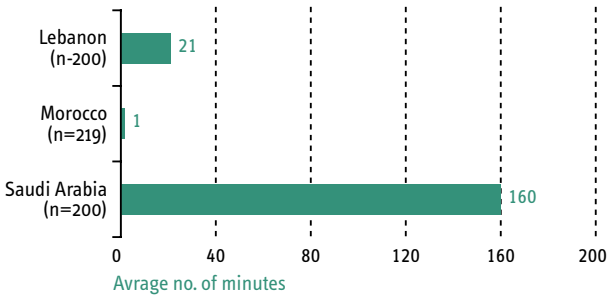
Evolution of mobile phone usage and expenditure

Evolution of usage

The difference between total time spent on calls when the respondents first began using their mobiles and with current total time spent is defined by the term “evolution of usage”.

The greatest evolution of usage occurred in KSA with a 160% increase, while Lebanon’s usage increased by 21%. Awkwardly, Morocco – who registered the greatest shift towards mobile phones from other means of communication – showed the least evolution of usage with just a 1% increase. This could be an indication that mobile phones replaced other means of communication from the start point.

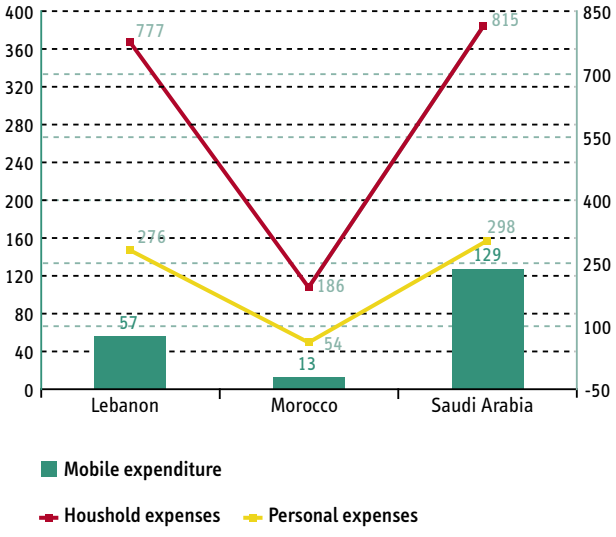
Figure 22: Mobile phone usage evolution



Mobile, household and personal expenditure

The highest overall expenditure is observed in Saudi Arabia. Expenditure in Lebanon is along the same levels as KSA; however the results on household, personal and mobile expenses come in support of the data on evolution of mobile usage. It is evident that although Saudi Arabia and Lebanon are on par in regards to expenses in general, expenditure on mobile phones is more than double in Saudi Arabia in terms of proportion of total household or personal expenditure. In KSA, mobile expenditure is 16% of total household income, while this figures stands at 7% in Lebanon. This is in line with the evolution of usage mentioned earlier for both countries. For figure 23, expenditures were converted to US$ for comparability purposes.

Figure 23: Average monthly expenditures (in US$)



Attitudes towards mobile phones

This section studies the attitudes of respondents if they were to be deprived of their mobile phone. Generally, social life would not be as affected as businesses life, as it will be demonstrated later in the business survey. In both KSA and Morocco, 17% of respondents mentioned that being deprived of their mobile phone will not affect their lives greatly. The same notion was present in Lebanon, where 22% of respondents mentioned they would "get used to it". More specifically, Mahmoud from Saudi mentions: "I would get used to life without a mobile, just like it was before I bought it"; while Youssef from Lebanon specified: "I might use the fixed line instead".

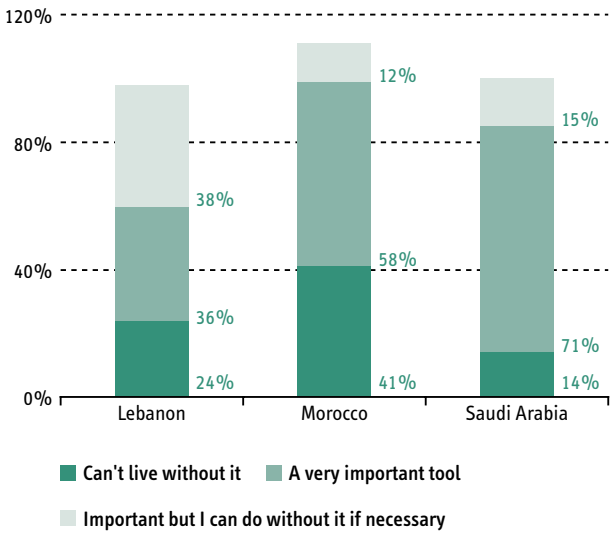
On the other hand, the greatest consequence would be inflicted on social life, for both KSA and Morocco. Respondents in KSA (51%) and Morocco (37%) believe that communication with family and friends would decrease. Missing updates on news from their circle of contacts is also a concern for 15% in Morocco, while personal affairs are expected to depreciate in Saudi (23%).

Once again in Lebanon the focus was on the business aspect, where the mobile seems to have had its greatest impact. This was mentioned by 30% of respondents who believe their professional life would be affected, whereas 22% expect the same negative effect on their personal life as they would be more worried about family and friends, caused by a feeling of disconnection.

Conclusion

In all countries surveyed respondents consider mobile phones an important tool or an essential part of their lives. This is more so the case among respondents from Morocco and KSA, while results from Lebanon indicate that a significant number of respondents (38%) find mobiles to be important, but still could live without them if need be.

Figure 24: Declared importance of mobile phones



This sentiment may exist in Lebanon simply because there are other substitutes available, such as fixed lines. In addition, respondents from Morocco also had and still have the option of public phones, which are used when mobile phones "suffer" from weak network coverage. Many respondents from Lebanon and some from KSA also mentioned that mobile phones are quite expensive. This has caused the mobile to take a complementary role to other types of communication, such as the aforementioned fixed line, public phones and face-to-face visits.

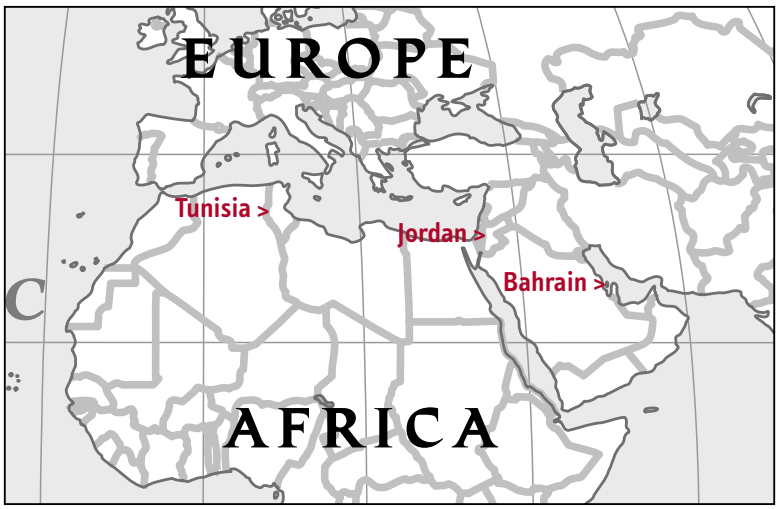
Nevertheless, mobile phones serve their purpose and this is why users find them valuable. Mobiles are relationship facilitators which help establish easier communication trends with family and friends, especially in Saudi Arabia and Morocco. Respondents are constantly in contact with their loved ones, thus providing a feeling of connectivity, as family and friends can easily exchange news with the respondent. It provides a feeling of closeness.

Moreover, users in Lebanon find mobiles practical in conducting their business as it provides fast and easy communication, and therefore the ability to resolve issues promptly.

Besides creating the grounds for strengthening relationships, through constant communication with the respondent's social environment, users have found mobiles very important in case of emergencies or special occasions. Individuals living alone felt that by owning a mobile they could contact anyone in case of an emergency. This provided a feeling of security that was otherwise lacking before. For respondents in Morocco and KSA, it was also a means to reduce traveling costs from face-to-face visits that were otherwise expensive.

Therefore, even with it's shortcomings of high cost, network issues and potential disturbance at inconvenient times, mobile phones have become very useful in the lives of rural communities in Lebanon, Morocco and Saudi Arabia. They have managed to take the respondent further than the fixed lines or public phones ever could, filling a void and satisfied a lot of needs and requirements of mobile users.

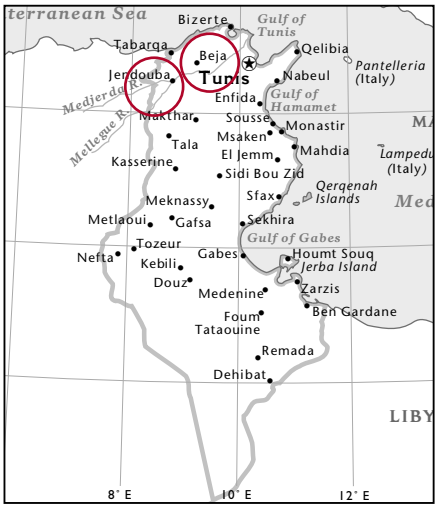
Findings: Micro-Business Survey



MENA Region

Bahrain

Jordan



Tunisia

Mobile phone ownership

As it was previously mentioned in the research methodology, the objective of this study is to asses the impact of mobile phones on small businesses located in the rural areas of Bahrain, Jordan and Tunisia. A total of 80 interviews were conducted across the three countries with GMs, IT / telecom managers or financial controllers, or any other company executive responsible for taking the decision for buying / assigning company mobile phones to employees. It is necessary to mention that due to the profile of businesses surveyed in the region – mainly small and family owned – the interviewee was in the vast majority of the cases the owner of the business. The majority of respondents have owned a mobile phone for more than 3 years. As can be seen from the figure below, there is clear evidence that Bahrain differs from Jordan and Tunisia, as mobile phone ownership has been introduced to the market more than 7 years ago.

Figure 1: Length of time using a mobile phone

	Avg. Nº of years
Bahrain (n=20)	7.4
Jordan (n=30)	3.4
Tunisia (n=30)	3.3

Furthermore, differences also exist with type of subscription used. In the more developed telecommunications market of Bahrain, the majority of businesses own postpaid subscriptions, while in Jordan and Tunisia almost all respondents declared that prepaid was their favorite subscription option.

Figure 2: Subscription type used

	Bahrain (n=20)	Jordan (n=30)	Tunisia (n=30)
Post paid	65%	10%	0%
Prepaid	35%	90%	100%

However, in the case when employees are provided with a mobile phone (80%, 50% and 30% of businesses in Bahrain, Tunisia and Jordan respectively, provide employees with mobile phones) ,all employees in Jordan and Tunisia are provided with prepaid subscriptions, while 38% in Bahrain are given a postpaid subscription. It seems that there are very few issues with prepaid card accessibility as very few respondents face trouble in recharging the units on their phones (see following table).

Difficulties encountered by the few in Jordan and Tunisia are mainly caused by lack of mobile provider outlets or shops selling recharge cards, while in Jordan there are times when the stock of cards runs out. These tribulations are simply tackled by visiting a neighboring city to purchase cards or by asking friends or relatives to assist by acquiring a card from another shop.

Figure 3: Pre-paid card accessibility

Bottom 2 scores Base: Respondents who use pre-paid cards	Bahrain (n=7)	Jordan (n=27)	Tunisia (n=30)
With some difficulty (2)	-	7%	-
With a lot of difficulty (1)	-	-	17%
Mean scores	4.0	3.7	3.4

Reasons for owning a mobile phone

Over the years, mobile phones have become an important tool for businessmen in the MENA (Middle East North Africa) region. In Bahrain, people were mainly driven to purchasing a mobile phone to facilitate their communication at all times and at anyplace. In Jordan and in Tunisia, the mobile was purchased as a tool to support their business by "checking if everything is fine in the office" and checking on employees at anytime. Furthermore, they added that mobile phones can help facilitate certain processes such as "placing orders to colleagues" and "receiving orders from clients".

Figure 4: Drivers to purchasing mobile phones

	Bahrain (n=20)		Jordan (n=30)		Tunisia (n=30)	
	Primary Reasons	Total Reasons	Primary Reasons	Total Reasons	Primary Reasons	Total Reasons
Communication facilitator anywhere/ anytime	30%	48%	23%	15%	7%	14%
For personal needs and emergencies	10%	8%	3%	34%	7%	36%
To save time by faster communication	20%	15%	-	5%	-	-
For business needs	10%	12%	67%	42%	87%	45%
To replace the fixed line/ to own a phone	-	-	6%	4%	-	5%
Less expensive	5%	2%	-	-	-	-

As a communication facilitator, mobile phones were incorporated within businesses to make job processes easier. Communication with clients and employees became far simpler as there are no more barriers in terms of time and distance since communication can be "round the clock", even while outside the office or traveling. More specifically, as Abdul Aziz Adam, a furniture retailer from Bahrain describes:

"Most of our products are provided by suppliers who can check with me the orders at any time by contacting me on the phone. Today I received a call from our supplier, but I was out of the office, so the employees called me on my mobile to confirm our order. If I didn't have a mobile it would have been very difficult for me to deal with my business."

In Bahrain, respondents also mentioned that "saving time by faster communication" was also a motivational factor for owning a mobile line, while in Jordan and Tunisia it was also intended for personal needs and emergencies (to contact relatives and friends and for emergency cases).

Usage patterns

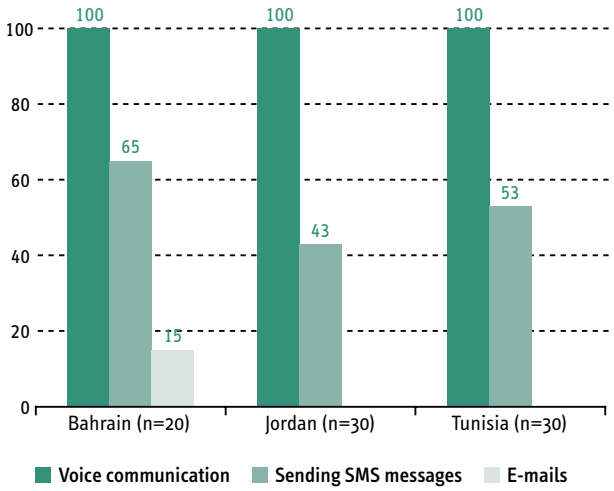
Usage purposes and frequencies

The generic functions of the mobile, such as voice communication and SMS messaging, are the ones primarily used. All respondents use voice communication, while around 50% of business respondents use SMS messaging as well.

Business users such as this one in Bahrain want to save time through faster communication

There is no use of other functions in Tunisia and Jordan, while only few respondents in Bahrain also use their mobile for e-mails. This once again shows that usage in Bahrain is slightly ahead of Tunisia and Jordan.

Figure 5: Mobile phone usage purposes



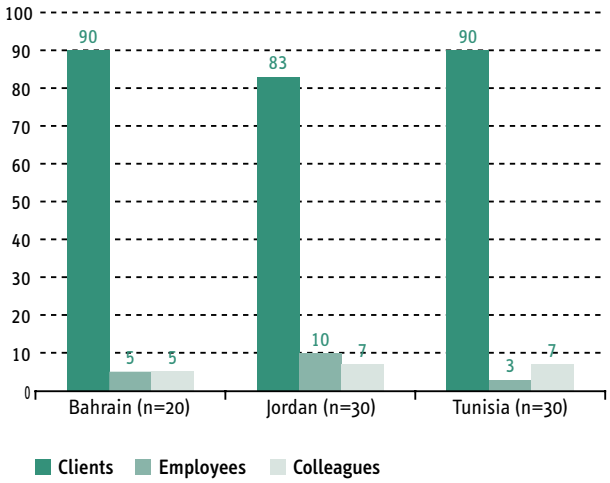
No clear outstanding reason for using SMS messaging presented itself, as it is used to a much lesser extent than voice communication. However, some respondents stated that they found it practical to send messages in order to preserve credits on talking time, to just request a "call back" from the other party, or even to just inform of the intention to communicate.

Popular calling times and destinations

With the main driver for mobile phone purchase being facilitation of business communication, it was only a natural outcome that businessmen in the MENA region who own small businesses primarily contacted their clients via their mobile phones. This was supported by the vast majority of respondents who also stated that employees and colleagues were also contacted regularly.

The majority of phone calls take place in the morning, during business hours, while on the other hand there seems to be more round the clock business communication for Bahrain.

Figure 7: Business calling destinations



It seems that mobile phones have become an intrinsic part of business life today in the MENA region and has helped simplify matters for businesses. As an example, the respondents who would previously communicate with clients, employees and colleagues through face-to-face visits, or at best fixed line telephony now use mobile phones instead. This will be further analyzed later in the report.

Other ways in using the mobile phone

People all over the world have conjured unconventional ways of using their mobile phones and this was also tested in Bahrain, Jordan and Tunisia. It was discovered that respondents tend to use the "missed call" as a new way to communicate. This was declared by 45% of respondents in Bahrain and 60% for both Jordan and Tunisia.

The "missed call" is used mostly when the user has low or no credit to make a call. It is also used to notify the other party of the intention to communicate. Respondents have mentioned that they left missed calls with clients to inform them that they are able to receive their call at that instant. This has been used in arranging deliveries of products to clients, among other procedures.

Mobile phone impact on business

Advantages and Disadvantages of using mobiles

Advantages

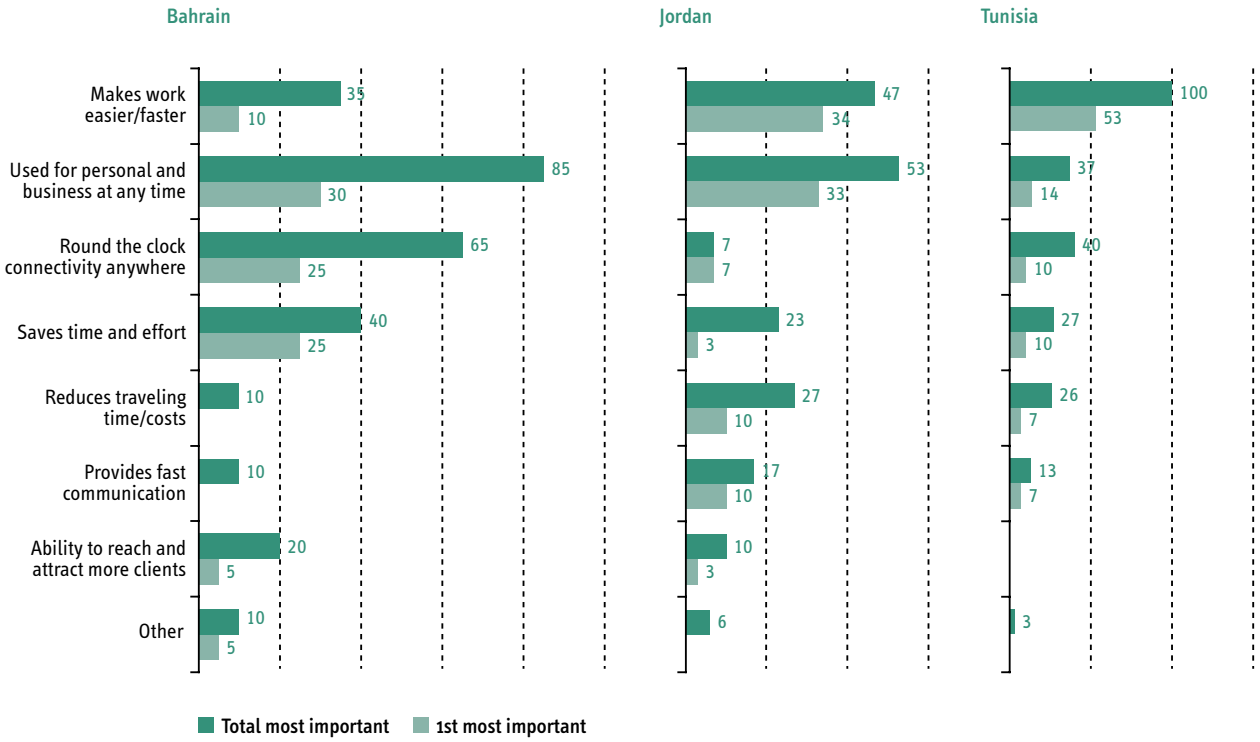
With the introduction of mobile phones into the business environment, users have experienced a number of benefits. The ranking of these benefits varies from country to country, but relatively they lie in the same pool of ideology.

The 1st most important benefit of mobile phones, as per the Jordanian and Tunisian respondents, is the ability to simplify the work, "to make work easier and faster". In Bahrain, respondents replied that the ability to use the mobile for personal and business purposes at any time was the most important benefit. This was also of high significance in Jordan and Tunisia as well. Certainly, these two factors were sought for, prior to the purchase of mobile phones, in order to increase productivity and efficiency. Respondents believed that by using the mobile phone, leaps were made forward in achieving these goals.

The most important benefits mentioned above, were supported by other business enhancements instigated by mobile phone usage. "Round the clock connectivity", "saving time and effort" and "travel cost reduction" were among the benefits recognized by the respondents, although to a lesser extent. The importance of the mobile phone and the difference it made is explained in Hussain Al Qassab's comment below, a shop owner in Bahrain:

"Today I was on my way to pick up my son from school. On my way, I received a call from my office that a customer is waiting for me to close a deal, so I returned back and completed the deal, and then went back to pick up my son from school. So for me, the mobile phone is an essential part of my business - without the mobile it would be very difficult to work."

Figure 8: Most important benefits using a mobile phone



The above statement is only one among many that illustrate how the mobile phone has enabled business individuals to resolve any professional or personal matters, thus reducing the risk of losing business or clients. By being reachable anywhere and at anytime has induced greater efficiency, simplifying matters for the business, making processes faster and easier, reducing costs (traveling costs for example), and also providing greater reach, as far as the circle of contacts is concerned. All of these aspects were satisfied to a lesser extent previous to owning a mobile phone, when other methods of communication were used.

Disadvantages

When asked to spontaneously express any disadvantages experienced by mobile usage, there were far fewer mentions than for advantages, clearly showing the benefit it provides to businesses. In Bahrain and Jordan, 50% of respondents have not expressed any disadvantages observed from mobile usage, while this was the case for 30% of respondents in Tunisia.

In Jordan, the main concern of respondents (40%) was the high communication costs. This was also the concern of 20% of respondents in both Tunisia and Bahrain. Furthermore, Tunisia's most commonly expressed disadvantage of owning a mobile phone was that they would experience "disturbance" (43%), a remark also made by 20% of respondents in Bahrain. Upon being asked to elaborate respondents added:

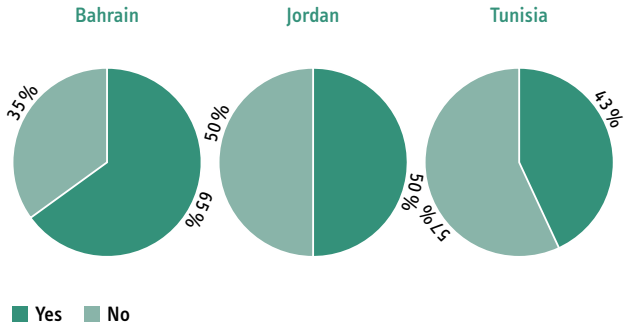
"There are quite a few unwanted calls. People are calling and I might not want to answer them"

"People can call me at inconvenient times, like when I am praying or when I am with my family"

Further details were uncovered when respondents were prompted on the subject of calls made at inconvenient times. It seems that there are two sides of the coin regarding mobile phone usage. Even though respondents benefit from "round the clock connectivity", it is also a detriment for them.

A lot of users expect that they will be receiving calls from clients or work associates at inconvenient times. This was mentioned by 65% of respondents in Bahrain, 50% in Jordan and 43% in Tunisia.

Figure 9: Expectation of receiving calls at inconvenient times



More specifically, mobile users in the countries of interest stated the following:
"I cannot get any rest. People will call me at nights or at times I am resting..."

"Clients tend to call at inappropriate times, like when I am with family or friends..."

"I receive business calls at times of emergencies"

However, mobile users are not fazed by these disadvantages, as the benefits gained from mobile usage exceed the detriments. This will also be seen in the sections to follow.

Effects on business practices

In order to acquire a clearer picture of the impact of mobile phone on businesses, respondents were asked to compare business life before and after mobile ownership. The assessment was made by asking respondents to evaluate whether some business activities were made "easier" after purchasing a mobile phone. According to the results, most of the activities in question have become easier with the introduction of mobile phones. In fact there were no activities made more difficult.

In Bahrain, 80% of respondents stated that the greatest impact was in obtaining information on availability and cost of merchandise, and communication with the business environment in general. In Jordan and Tunisia, mobile phones had the most positive effect on communication with clients, colleagues and employees.

Figure 10: Mobile phone influence on businesses

"Activities made easier"	Bahrain	Jordan	Tunisia
Information on availability /cost of merchandise	80%	60%	77%
Information on new products in your line of work	60%	33%	57%
Communication with business environment	80%	40%	83%
Placing orders	70%	63%	80%
Communicating with clients /colleagues / employees	75%	87%	97%
Obtain market information, relevant to your business	60%	40%	80%
Obtain banking information	45%	10%	33%
Obtain weather information	5%	3%	-
Receiving news	-	3%	-

Respondents also explained the ways in which the mobile phone has made the above activities easier.

- **Obtaining information on availability and cost of merchandise and information on new products in your line of work**

Speed and the fact that traveling is no longer required are the improvements that mobile phones had on the above mentioned activities. For respondents in Jordan and Tunisia, the mobile has enabled business individuals to obtain information without having to travel. It is

a fast and easy means of communication, as opposed to having to undertake face-to-face visits. In Bahrain, travel is less of an issue due to the small size of the country and proximity of destinations, but mobiles have definitely contributed to speeding up communication processes. All in all, obtaining market information quickly is key for respondents who want to improve their profits. As Waseem, a farmer from Jordan mentioned:

"Knowing the prices before going to the market helps me to be better prepared for meetings with clients or suppliers and to decide whether it is worth going to the market for business."

- **Communication with business environment**

"I can communicate with clients or employees at anytime. Wherever I am, even out of the office, I can be contacted for business". These are the kind of comments that respondents gave in Bahrain and Jordan regarding mobile phones improving communication with the business environment. In Jordan, respondents also mentioned that communication was made easier, which was the prevailing belief in Tunisia as well.

- **Placing orders**

Using the mobile phone has simplified the process of placing orders. Information exchange with clients has become more efficient as orders can be arranged and prices agreed upon before any meeting needs to take place. The client can express their needs and any details can be arranged speedily.

- **Communicating with clients /colleagues /employees and obtaining market information, relevant to the business**

Communication channels have become more accessible and communication with the business circle of contacts can take place anywhere and at anytime. This has in turn reduced traveling and improved the effectiveness of communication and has also improved on time saving.

"I don't need to travel now; I can just call and book an appointment whenever it is convenient," Mohammed, an owner of small construction company, mentioned. Mohammed, who himself is a carpenter, added that the technology saves time and transportation costs because he can arrange meetings via the mobile phone before having to go to the working premises.

Najeeb, a retail trader from Tunisia mentioned: "I don't need to travel so much anymore just to go and check the office. I can call one of my employees."

Benefits expected from mobile phone usage

Following the evaluation of the present versus the past, in regard to mobile phone ownership, an outlook on the future was carried out.

As can be seen from the following chart, Tunisia has the highest number of respondents expecting mobiles to benefit them in a variety of ways. Nevertheless, there still is relatively high future expectation of benefits in all three countries. More specifically, the benefit that is most expected by respondents is "speed up of communication". This is already a benefit which businessmen indulge from, but further improvement to business practices is anticipated. This would be a result of "faster" and "round the clock communication from anywhere" as the respondents stated.

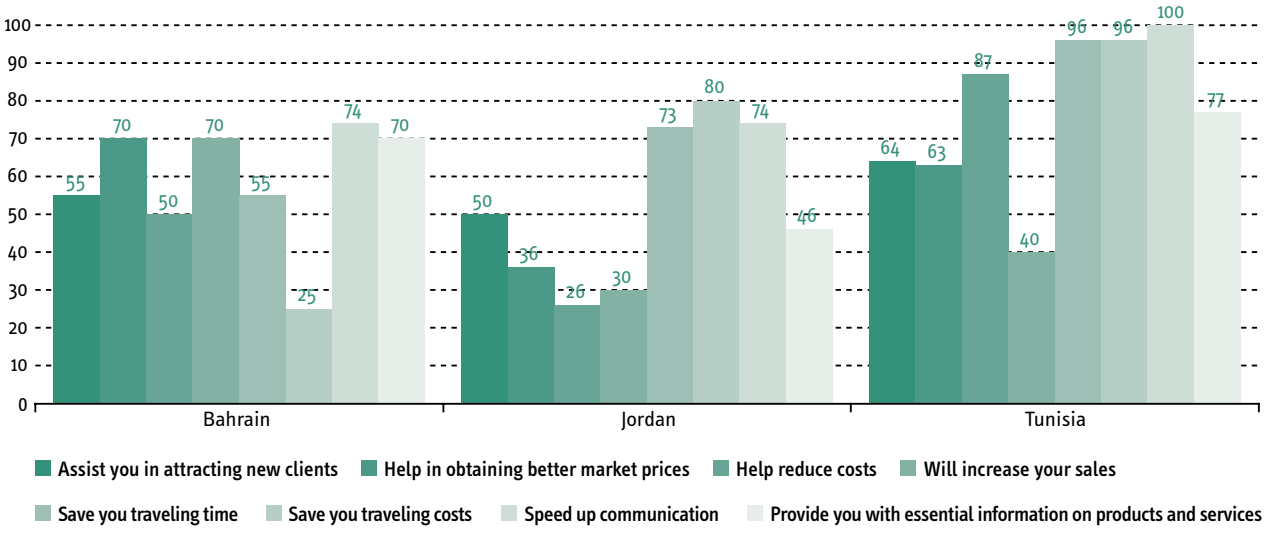
Saving traveling time and cost are also ranking high, mostly with respondents in Jordan and Tunisia, while in Bahrain traveling is not an issue due to small distances. Respondents expect reduced traveling due to the ability of direct communication via the mobile phone, which is considered faster and less expensive by respondents than traveling.

An additional benefit of owning a mobile phone is the ability to communicate with more people, thus providing the opportunity to attract new clients. Easier two-way communication can result in new contacts being made, thus creating new business. This was the belief of at least half the respondents in each country.

A significant number of respondents also expect that by using the mobile phone, they will be able to obtain better market prices and increase their sales. This is more so in Bahrain and Tunisia than in Jordan. Fundamentally, respondents expect that by being continuously updated with market conditions and prices better prices will be obtained, which in turn will allow them to have a stronger foothold during client negotiations. The above will also help increase sales. A very good example is provided by Jaffar Abdulla Bader, a retail trader in Bahrain:

"My employees always call me to check prices. If I am out of the office and they have a customer asking for a discount, to avoid losing them, they will call me so that I will try to get the best prices from the market and the client. This is very important in my business, without mobile phones nowadays it is not possible to do any business."

Figure 11: Expected benefits of using mobile phones



Note: The charts are showing Top 2 box scores ("Most definitely" and "Probably")

Practical problem areas

Besides the benefits offered by mobile phones, mobile users also face practical problems which are mostly out of their control. With the service providers not fully deployed in remote rural areas of the country, mobile users and business individuals face inconveniences that would usually be avoided in the better covered urban locations.

The common problem among all countries in the business survey is network coverage. As it was previously mentioned rural areas are not covered well by the network, and therefore people face connectivity problems. More specifically, a respondent from Jordan mentions:

"Sometimes a foreign company's network is stronger, so my mobile connects to it and I get charged for it."

Network problems occur quite often in the locations visited in Tunisia and Jordan. In Tunisia, 41% of respondents mentioned that they often experience network problems, and 31% mentioned that these problems are more persistent during special occasions such as religious holidays. In Jordan, 63% of respondents mentioned that the network is weak or off at least once a week. When faced with these problems respondents are frustrated by:

"calls ending suddenly and with no reconnection for sometime"

"missing important calls"

"being out of reach for clients, employees and colleagues"

In addition, there are also problems with electricity supply as there are power cuts in the area of residence. This is more so the case in Tunisia, but some mentions were

also recorded in Bahrain. Respondents mentioned that there were occasions when their mobile stays with an empty or low battery simply because there is no electricity to recharge it. The effect is that work may be slightly delayed as communication becomes more difficult, and work less manageable, especially when on the move. Though power cut incidences are very rare in Bahrain and Jordan, in Tunisia 43% of respondents who experienced power cuts mentioned that it happened often.

Figure 12: Inconveniences faced in area of residence

	Bahrain (n=20)	Jordan (n=30)	Tunisia (n=30)
Electricity Supply (power cuts)	15%	3%	47%
Network coverage	65%	80%	97%
Handset Maintenance	-	7%	50%
Replacing Handset /Accessories	5%	7%	37%
Nothing	15%	13%	-

Furthermore, respondents in Tunisia also face problems with handset maintenance or replacement, due to a shortage of shops that can service their needs. This may often require the owner to travel to a nearby city where such shops will be found or request from friends or family that are traveling to assist with this task.

Mobile phone versus fixed line

Throughout the survey it is evident that Bahrain varies somewhat from Tunisia and Jordan. Whether it is the nature of the country (for example shorter distances to travel), or the stage of familiarity of respondents with mobile phones, business respondents in Bahrain seem to have been using communication quite differently. And when fixed line ownership is observed, Bahrain, once more, differs from the two other countries.

Currently, all respondents in Bahrain own a fixed line, while in Jordan and Tunisia only 13% and 10% own a fixed line, respectively. Actually, fixed line ownership was low in the past as well. Past ownership (before purchasing a mobile phone) in Jordan and Tunisia was 12% and 11% respectively. As a consequence of mobile phone introduction, 100% of these fixed line owners have replaced their old line with a mobile phone line.

Current small business owners of fixed lines in Jordan and Tunisia have decreased the number of calls made per day via the fixed line, however as there are very few current fixed line owners this can only be an indicative result. The frequency of fixed line calls in Bahrain has remained relatively the same, even after the introduction of mobile phones.

Figure 13: Fixed line frequency of usage

Average Nº of calls/ day	Usage prior to buying phone	Current usage
Bahrain	5-6 calls/ day	5-6 calls/ day
Jordan	5-6 calls/ day	2 calls/ day
Tunisia	6 calls/ day	5 calls/ day

Occasions using mobiles and fixed lines

Business respondents owning both a mobile and a fixed line have indicated that usage between the two varies. The base of respondents for Tunisia and Jordan is small, therefore more attention was paid to Bahrain, where results have a greater credibility due to the higher number of users of fixed line.

Business respondents in Bahrain use their mobile phone when they are outside traveling (45%), as opposed to 40% that use the fixed line when they are indoors and a fixed line is available. Of course this is only a logical outcome, but it seems that a high percentage (35%) uses the fixed line as well for business purposes and not just the mobile phone. On the other hand 35% of respondents mention that they use the mobile phone most of the times, in addition to 15% that specify that mobiles are used for their business needs.

What is interesting is that respondents from Jordan answering this question mentioned that they use their mobile to call another mobile phone line and use their fixed line to call another fixed line. In Tunisia on the other hand, the mobile is used for short conversations, while the fixed line is used for long conversations.

Figure 14: Instances using mobile phones and fixed lines

Base: Current fixed line owners	Bahrain (n=20)	Jordan (n=4)	Tunisia (n=3)
Occasions using mobile phones			
For business needs	15%	25%	33%
When I'm outside /during traveling	45%	25%	33%
To call another mobile phone	-	50%	-
I use the mobile most of the time	35%	-	-
For internal calls	5%	-	-
For personal reasons	-	25%	-
For short communications	-	-	33%
Occasions using fixed line			
When I am indoors /when the fixed line is available	40%	25%	33%
To call other fixed lines	-	75%	-
For business purposes	35%	-	-
For long communications	-	-	33%
For personal purposes	-	-	33%
For international calls	5%	-	-
No specific occasions	30%	-	-

Advantages of a mobile over a fixed line

Business respondents mentioned that the main advantage of mobile phones over fixed lines is the ability to carry it anywhere and use it at anytime – an obvious answer. Business respondents often said throughout the survey that they liked the fact that they can carry the mobile with them anywhere, at the office, outside the office and they can communicate at anytime easily. The importance of this advantage is well expressed by Mohsin Al Buni, from Al Salam Gas in Jordan:

"While I'm out I receive so many calls during the day, such as, one of my drivers had an accident on his way to deliver some items, so I had to solve this problem. Earlier I received a call that there is a fire in my shop, so I have to come very quickly to my organization for the emergency to solve this problem, whereas if there was no mobile phone I wouldn't be able to solve the problem immediately."

The above comment also implies faster communication is very important and can save time and money, in the above case from damages caused to merchandise or to the shop.

Figure 15: Advantages and disadvantages of using a mobile phone

	Bahrain (n=20)	Jordan (n=30)	Tunisia (n=30)
Advantages			
Communication anywhere / any time	65%	93%	97%
Faster communication / saves time and money	10%	17%	17%
Smoothens the job process	25%	17%	13%
Many mobile phone functions	10%	3%	-
Control of communication	-	-	17%
Caller identity	5%	-	3%
Disadvantages			
High expenses	40%	37%	33%
Receiving calls at inconvenient times	10%	17%	20%
Poor coverage	15%	7%	20%
Congested networks	-	3%	10%
Health issues	5%	3%	-
Improper use of the mobile	5%	-	10%
Dangerous during driving	15%	-	-
The mobile can be stolen /damaged	5%	-	-
It weakens family relationships	5%	-	-
No disadvantages	25%	40%	40%

From the disadvantages point, the main concern is high telephone expenses. As per respondent statements, it is not the fact that mobile phone communication makes life more expensive, as many respondents have mentioned that through mobile phones they save money from traveling. It is more the fact that by owning a mobile phone they tend to make more telephone calls, even when it is not absolutely necessary, just because they have it. On the other hand, a very high percentage of respondents from all countries have declared that there are no disadvantages to owning a mobile phone.

Public phones and other methods of communication

In many rural areas, the norm is that there are very few public phones, but when some are available these are used by the whole community, both for incoming and outgoing calls. This was also the case in the areas surveyed for this research.

Around 50% of respondents in Tunisia and Jordan and 55% in Bahrain said that public phones exist in their area of residence. Some respondents used these public phones quite often before purchasing mobile phones – this was especially the case in Tunisia. However, this usage dropped to zero with the introduction of mobile phones.

Figure 16: Public phone usage

Average Nº of calls	Usage prior to buying mobile phone	Current usage
Bahrain (n=11)	Less than 1 call per week	Never
Jordan (n=15)	3 calls / week	Never
Tunisia (n=15)	14 calls / week	Less than 1 call per week

Interestingly, business respondents in Bahrain stated that sending letters increased after the purchase of a mobile phone, even though that number still remains small. In Jordan and Tunisia, face-to-face visits dramatically decreased, while visits in Bahrain remained the same.

Figure 17: Means of communication used prior to purchasing a mobile phone and subsequently

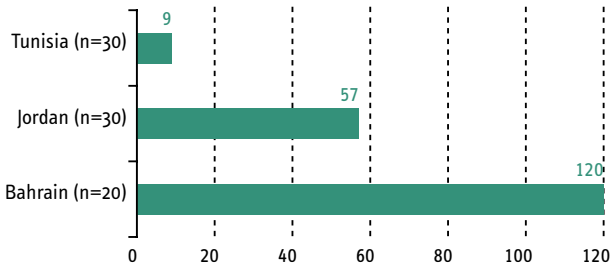
	Bahrain (n=20)	Jordan (n=30)	Tunisia (n=30)
Before purchase of mobile phone			
Letters	20%	3%	20%
Fixed line phone calls	100%	30%	40%
Visits (face-to-face contact)	50%	77%	93%
Hear news from other people	10%	13%	30%
Other	15%	13%	-
After purchase of mobile phone			
Letters	30%	3%	-
Fixed line phone calls	90%	10%	7%
Visits (face-to-face contact)	50%	27%	-
Hear news from other people	15%	3%	-
Mobile phone	100%	100%	100%
Other	20%	-	-

Evolution of mobile phone usage and expenditure

Evolution of usage

Mobile phone usage, in terms of total time spent on calls, has increased from the initial time of purchase. The most tremendous increase in usage was observed in Bahrain, were users have declared an average of 120% increase in total time spent on calls. Increase in Jordan and Tunisia was recorded at 57% and 9% respectively. Bearing in mind that users in Bahrain have around 4 years more experience with mobile phones, on average, than in Jordan and Tunisia, this increase is an outstanding figure.

Figure 18: Mobile phone usage evolution

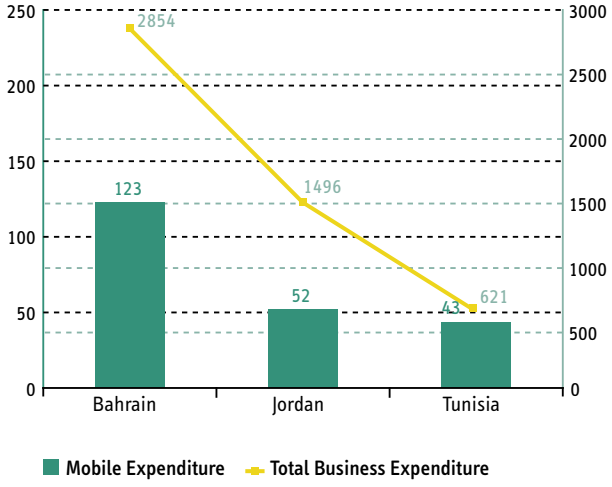


Mobile and business expenditure

The above increase in mobile usage recorded in Bahrain is also reflected in terms of expenditure. For the sake of comparativeness, expenditure was converted from local currencies to US$, and it is evident that both mobile and business expenditure is much higher in Bahrain.

Mobile expenditure proportionately to business expenditure is highest in Tunisia. However, the proportion of business expenditure allocated to mobile phones is very low and at the same level among the three countries, as it varies between 3.5% and 6.9%. Therefore, respondents do not consider mobile phone expenses a major issue as it is only a small fraction of the business expenditure.

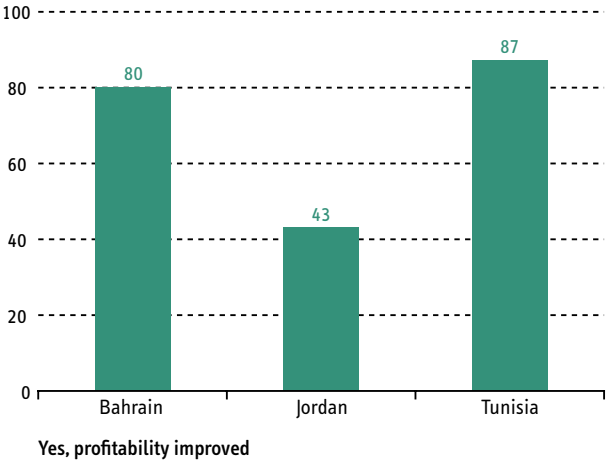
Figure 19: Average monthly expenditures (in US$)



Mobile phones and business profitability

More than 4 out of 5 people in Bahrain and Tunisia believe that since using mobile phones their profitability has improved. This belief was not as strong in Jordan where 43% of respondents experienced an increase in profitability from using mobiles. As was previously mentioned, there is less expectation from Jordanian respondents that mobiles will assist in attracting new clients, obtain better market prices, reduce costs in general and increase sales. Perhaps respondents in Jordan fail to recognize that mobile phones can affect profitability, even indirectly, as they also tended to believe that mobile phones' improvement on business activities was less than what respondents believed in Bahrain and Tunisia.

Figure 20: Whether the mobile phone influenced profitability



The respondents who experienced an increase in profitability were asked to explain how the mobile phone has helped achieving this. The respondents replied in a number of ways. Once again respondents in Jordan and Tunisia differentiated from Bahrain in the fact that mobile phones lowered expenses, with the main factor being reduced travel costs.

Facilitating communication is an attribute also considered to increase profitability, more so in Jordan and Bahrain. The fast and easy two-way communication among respondent and client provides a more solid ground for conducting business, without missing opportunities to increase profits as well as customer satisfaction. A retail trader from Tunisia mentioned:

"The fact that the client can reach me at all times keeps them satisfied. They can check on their orders easily and inform me of their needs".

Mobiles also manage to save time and effort; an attribute interrelated with the previous two. This is achieved by fast communication while making the work smoother and easier. Processes are more effective, hence services and deliveries are done on time, as per the respondents.

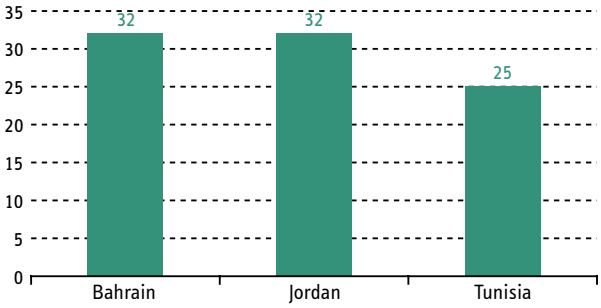
The end result: mobile phones increase profitability simply because businesses in Bahrain, Jordan and Tunisia function better, faster and smoother, with a better understanding of clients due to improved communication. But how much has profitability increased?

Figure 21: Mobile phone influence on profitability

	Bahrain	Jordan	Tunisia
Lower expenses /cheaper than traveling	-	38%	62%
Can reach /service more clients	6%	15%	8%
Communication facilitator	50%	38%	4%
Always updated about price / getting best prices /new information	43%	31%	28%
Saves time and effort /smoothens job process	62%	31%	62%

The average respondent in Bahrain and Jordan estimated a 32% increase in profitability, brought about directly by mobile phones. In Tunisia, business respondents estimated a 25% increase. Although less Jordanians than Tunisians expected mobile phones to improve their profitability, the former estimated a higher percentage increase.

Figure 22: Percentage change in profitability



Attitudes towards mobile phones

In the hypothetical scenario of respondents being deprived of their mobile phone, all recognized the negative impact this would have on their business (as seen in Figure 23 below). Almost all respondents in Bahrain and Tunisia mentioned that their work would become more difficult as processes would become slower. Communication would be harder thus affecting all other processes of the business, such as placing orders, organizing work when out of the office, or communicating with clients.

The latter is also an issue in Jordan, where 63% of respondents said that it would be hard to be contacted for business, either by clients or employees. As one respondent puts it quite accurately "I will lose communication with the external world".

Conclusion

Mobile phones have become an integral part of businesses in Bahrain, Jordan and Tunisia. With almost no substitutes available – except the availability of fixed lines in Bahrain – mobile phones have become essential to conducting business in the region.

Mobile phones had a major impact on how business is conducted, revolutionizing past practices of business individuals. It is by far the most popular means of communication used. Respondents in the survey have recognized that they have the ability to communicate with their desired circle of contacts, at any time, from anywhere and the chance to resolve issues that would otherwise remain unresolved, or would delay the business. This would not be achievable before the introduction of mobile phones in their lives.

Reducing the need to travel for business was very essential to respondents in Tunisia and Jordan. By owning mobile phones, traveling for face-to-face visits was reduced. Thus, decreasing travel time and cost, businesses became easier to manage and more cost effective.

Figure 23: Aspects of life to be affected by the absence of mobile phones

	Bahrain	Jordan	Tunisia
It would be hard to be contacted for business	10%	63%	13%
Higher travel expenses /would increase traveling	5%	16%	23%
Harder to contact clients /close clients	20%	7%	3%
It will affect my life /relations	10%	14%	3%
Work would slow down /more difficult	90%	-	97%

Round the clock communication was also essential to the businessmen interviewed; however there was also the negative side of this aspect. Besides the fact that it provided the opportunity to increase client satisfaction and make business processes more efficient, it also created inconvenience for the owner of the mobile. Clients would call at any time, even late at night or when respondents would be resting, praying or spending time with their family.

However, through this round the clock connectivity, businesses obtain vital market information fast and without effort, allowing them to properly manage their organization for maximization of profits. This way, businesses will flourish, increasing profitability even further and possibly expand into new horizons. Certain practical issues still occur, like network or electricity problems, but they will not stand in the way of progress for these businesses.

Users enjoy the benefits provided by mobile phones, even if they are using only a fraction of the functions available. The only way is up for small businesses in rural Bahrain, Jordan and Tunisia, and mobiles will definitely assist, as they already have, in this leap forward.

The sign on this Jordanian coffee shop advertises the availability of mobile recharge cards

MENA Operators: Facts and Figures (October 2005)

Country	Population	Company	Date of Establisment	Ownership Type	Nº Of Employees	Nº of Subscribers	Penetration Rate
Gulf							
Bahrain	700,000						
		Batelco	1981	Listed	1,500	560,000	80.00
		MTC Vodafone Bahrain	2003	Private	300	190,000	27%
Total					1,800	750,000	107%
Iraq	28,100,000						
		AsiaCell	1999	Private	250	1,113,600	3.96%
		MTC Atheer	2003	Private	500	925,000	3.29%
		Orascom Telecom Iraq	2004	Private	700	1,418,762	5.04%
Total					**1,450**	**3,457,362**	**12.30%**
Kuwait	2,800,000						
		MTC Vodafone	1983	Listed	1,500	1,394,000	49.70%
		Wataniya Telecom	1997	Listed	1,400	928,444	33.15%
Total					**2,900**	**2,322,444**	**82.94%**
Oman	2,700,000						
		Nawras Telecom	2004	Private	300	181,422	6.72%
		Oman Mobile Telecommunications Co.	2004	Government	500	1,005,357	37.20%
Total					**800**	**1,186,779**	**43.95%**
Qatar	700,000						
		Qatar Telecom	1998	Listed	1,795	675,400	96.49%
Total					**1,795**	**675,400**	**96.49%**
Saudi Arabia	24,000,000						
		Etihad Etisalat Company (Mobily)	2004	Listed	1,200	1,800,000	8%
		Saudi Telecom	1998	Listed	22,000	10,020,000	41.75%
Total					**23,200**	**11,820,000**	**49.25%**
UAE	4,200,000						
		Etisalat	1976	Listed	9,400	4,300,000	102%
Total					**9,400**	**4,300,000**	**102%**
Yemen	20,300,000						
		Sabafon	2001	Private	n/a	842,622	4%
		Spacetel Yemen	2000	Private	600	710,000	3.50%
		Yemen Mobile	2004	Government	n/a	152,000	0.74%
Total					**600**	**1,704,622**	**8.39%**
Levant							
Jordan	5,600,000						
		Fastlink	1995	Private	850	1,732,000	30.9%
		MobileCom	1999	Private	480	615,000	10.98%
		Umniah	2003	Private	268	n/a	n/a
		Xpress Telecommunications	2004	Private	260	80,000	0.89%
Total					**1,858**	**2,427,000**	**43.34%**

Country	Population	Company	Date of Establisment	Ownership Type	Nº Of Employees	Nº of Subscribers	Penetration Rate
Levant							
Lebanon	3,500,000						
		Alfa (Fal Dete Tel)	2004	Private	418	499,000	14.25%
		MTC Touch	2004	Private	350	501,000	14.30%
Total					**768**	**1,000,000**	**28.57%**
Palestinian Terr.	3,590,000						
		Jawwal	1999	Private	450	622,000	17.30%
Total					**450**	**622,000**	**17.30%**
Syria	18,600,000						
		Spacetel Syria	1999	Private	1,300	925,000	4.97%
		Syriatel	2000	Listed	1,300	1,200,000	6.45%
Total					**2,600**	**2,125,000**	**12.30%**
North Africa Region							
Algeria	33,400,000						
		Algerie Telecom (Mobilis)	2001	Government	n/a	4,091,662	12.25%
		Orascom Telecom Algerie (Djezzy)	2002	Private	2,000	6,158,624	18.43%
		Wataniya Telecom Algerie (Nedjma)	2003	Private	700	1,164,455	3.40%
Total					**2,700**	**11,414,741**	**34.17%**
Egypt	72,600,000						
		Mobinil	1998	Listed	1,916	6,000,000	8.26%
		Vodafone Egypt	1998	Listed	2,200	5,981,528	8.23%
Total					**4,116**	**11,981,528**	**16.50%**
Libya	5,700,000						
		Al Madar Telephone Company	1997	Government	400	250,000	4.38%
		Libyana	2003	Government	400	240,000	4.21%
Total					**800**	**490,000**	**8.59%**
Morocco	31,000,000						
		Maroc Telecom	1984	Listed	12,170	8,297,000	27%
		Medi Telecom	1999	Private	710	3,440,000	11%
Total					**12,880**	**11,737,000**	**38%**
Sudan	35,500,000						
		Bashair Telecom (Areeba Sudan)	2005	Private	n/a	279,000	0.78%
		Mobitel	1998	Private	n/a	1,800,000	5.07%
Total					**0**	**2,079,000**	**5.85%**
Tunisia	10,000,000						
		Orascom Telecom Tunisie (Tunisiana)	2002	Private	1,200	1,986,918	19.86%
		Tunicell	1996	Government	8,100	3,575,510	35.75%
Total					**9,300**	**5,562,428**	**55.62%**
Total Regions							
Total Gulf	**83,500,000**				**41,945**	**26,216,607**	**31.40%**
Total Levant	**31,290,000**				**5,676**	**6,174,000**	**20%**
Total North Africa	**188,200,000**				**29,796**	**43,264,697**	**22.99%**
Total MENA	**302,990,000**				**77,417**	**75,655,304**	**24.97%**

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